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The Emu

A Quarterly Magazine to popularise the Study and Protection
of Native Birds.

OFFICIAL ORGAN OF THE AUSTRALASIAN ORNITHOLOGISTS' UNION.



Editors: A. J. CAMPBELL and H. KENDALL.

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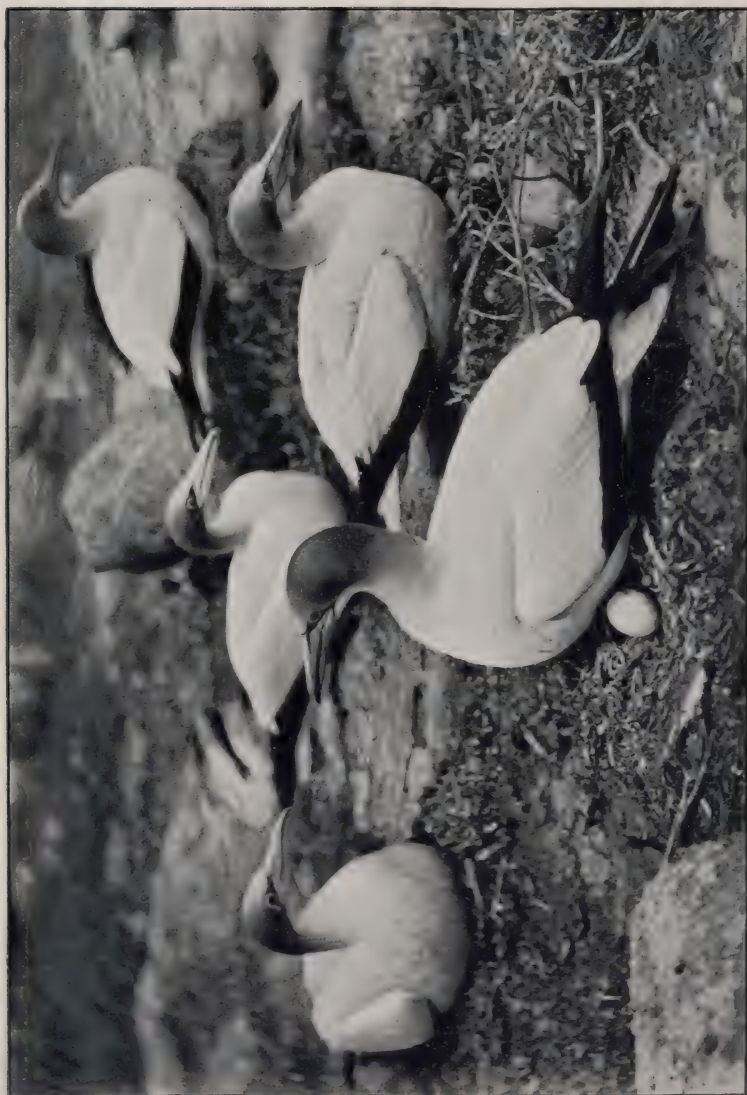
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EDITORIAL NOTE.

IN completing with this issue the first volume of *The Emu* the editors most heartily congratulate members on the success which has been attained. Much was expected, much has been achieved. From the small gathering at which the Union was projected it has grown to proportions that will make its influence felt more and more, and numbers sufficient good workers in its ranks to render efficient service both to the science of ornithology and to the cause of bird protection. How much remains to be done in those directions every student and bird-lover knows. Nearly 100 known species have their nests and eggs still undescribed, and of a large proportion of our birds some phases at least of their life-history are unknown.

To those members who have rendered aid by writing and forwarding papers the warmest of thanks are tendered, as also to those who have given advice. From both a continuance in the good work is solicited, as are contributions from other of our fellow-members. Every item chronicled in *The Emu* is helpful in the cause we all have at heart, and the larger the number of observers who prove that they are at work by recording what they see, and publishing their notes, the more efficient will the official journal of the Australasian Ornithologists' Union be. Up to the present the task of the editors has been a pleasurable one; it remains with members to make it continue so.

THE EMU.



Gannets (*Sula serrator*) Nesting.

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The Emu

Official Organ of the Australasian Ornithologists' Union.

"Birds of a feather."

VOL. I.]

OCTOBER, 1901.

[PART I.

The Australasian Ornithologists' Union.

ITS ORIGIN.

IN after years reminiscences of the beginnings of successful societies possess a special interest. But too often, when the history of what time proves to be an important event comes to be written, material is either unavailable or only procured with difficulty. Hence it may not be unwise to reverse the usual order of things, and even before the first general gathering of the Aust. O.U. in Adelaide, to "take time by the forelock," in this first issue of *The Emu*, by giving an outline of the inception of the Union and the steps which led to the formation of so necessary an institution.

The initial stages took the form of a series of ornithological and oological dinners or reunions, delightful socials at which nothing stronger than tea and coffee was drunk. The first was held on 15th August, 1896, and the only record is the following account given by a newspaper :—

REUNION OF NATURALISTS.

At the invitation of Mr. A. J. Campbell, about 20 naturalists* met at a reunion at Britannia House, South Yarra, on Saturday evening. There were present :—Mr. D. M'Alpine, Government Pathologist (in the chair), Dr. Charles Ryan, Mr. Dudley Le Souëf, and several members of the Field Naturalists' Club and others who take interest principally in the oology or nidification of Australian birds. The floral decorations of the table were in strict keeping with the occasion, consisting of golden blooms of acacias, native heaths, pink and white. A large and beautiful moss-made nest of the Mountain or Ground Thrush, with eggs, fresh from the scrub, adorned the centre of the table. Mr. M'Alpine said that Mr. Campbell had been naturalizing for 25 years. His egg collection had reached 500 species—the largest purely Australian collection of eggs extant. Mr. M'Alpine referred to the instructive articles by Mr. Campbell appearing in *The Australasian*, and said he hoped that when Mr. Campbell published his permanent work (now in course of preparation) he would receive national assistance. In lieu of the usual toasts, Mr. Campbell read a paper touching on ornithological topics, describing some of his experiences as a field naturalist, and

* Those actually present were :—H. P. C. Ashworth, T. A. Brittlebank, F. G. A. Barnard, A. J. Campbell, W. R. G. Campbell, T. G. Campbell, A. G. Campbell, Ed. Degen, C. French, jun., J. Gabriel, J. T. Gillespie, Robt. Hall, D. Le Souëf, D. M'Alpine, Chas. Ryan, G. E. Shepherd, and J. Sommers.

giving an account of the Bell Miner. The paper was followed by an exhibition of lantern views depicting birds and nests seen by Mr. Campbell during his excursions. Before breaking up the meeting resolved to form an Australian Ornithological Union, on similar lines to the British and American Ornithological Unions.

A return dinner was given at the Victoria Coffee Palace on 26th August, 1897. About the same number of gentlemen were present as in the previous year, amongst them being Dr. Chas. Ryan, Dr. Snowball, Mr. E. D'Ombraïn, and other field naturalists. Mr. T. A. Brittlebank and Mr. G. E. Shepherd were present on behalf of provincial collectors, while the intercolonial ones were represented by Mr. A. E. Brent, of Tasmania. Apologies regretting absence were received from Sir Frederick M'Coy, Colonel W. V. Legge, and others. Mr. Campbell, replying to the toast of his health, made the prophetic utterance—"It is a very happy thought to make these reunions of ours annual affairs. If we keep them going no doubt they will merge into an Australian Ornithological Union at no distant date."* Lantern views of birds, nests, and eggs, and an exhibition of some of the rarest and most beautiful eggs, filled up a pleasant and profitable evening.

There was a lapse of two years ere the next gathering took place, at the Coffee Palace, on the 1st September, 1899. This was at the invitation of Mr. Dudley Le Souëf. The return dinner, on 7th November, 1900, was an unqualified success, and at it the preliminaries of a union had a definite beginning. Apologies were read from Sir Malcolm M'Eacharn, Mr. C. W. De Vis (Queensland), Mr. S. W. Moore, M.L.A. (New South Wales), Dr. Morgan (South Australia), Colonel Legge (Tasmania), Mr. C. French (Government Entomologist), and others. There were present—Dr. Chas. Ryan (in the chair), Mr. J. W. Mellor (representing the Ornithological Association of South Australia), Mr. C. F. Belcher (Field Naturalists' Club, Geelong), Mr. D. M'Alpine, and several other prominent members of the Field Naturalists' Club of Victoria—in all 21 gentlemen.† (By a remarkable coincidence, this was the exact number of the founders of the now famous American Ornithologists' Union, started in 1883.) It was resolved that Dr. Ryan, Messrs. D. Le Souëf, A. J. Campbell, G. A. Keartland, Robt. Hall, and J. Gabriel form a committee to consider the matter of a union fully, and bring up at an early date the result of its deliberations. This committee went to work, slowly but surely, with the encouraging result that sufficient responses (including the gracious patronage of Their Royal Highnesses the Duke and Duchess of Cornwall and York) were received to warrant the committee in recommending that a union be constituted from the 1st July, 1901, with its principal planks the study and protection of birds, and that the first general meeting be held at Adelaide in October

* *The Wombat*, Oct., 1897, p. 6.

† Signatures see Plate I.

following, when a simple code of rules and a representative list of office-bearers be proposed for adoption.

FUTURE WORK.

Already the membership roll includes workers whose names are known beyond Australasia, and though the Union is not confined to men who have made so prominent a mark, but includes ordinary bird-lovers as well as scientific ornithologists and oologists (this was necessary to secure the diffusion of knowledge), it should do excellent work. None will deny that there is a wide field to engage the attention of such a body, or that there is much to be done both in the field and the cabinet. There are technicalities to be settled, doubtful points to be cleared up, and mysteries of nesting, &c., to solve. Our knowledge of bird life is incomplete; it is probable that many new species remain to be discovered; and some of the genera are in danger of passing away altogether unless something is done to save them. The efforts of isolated workers cannot be so effective in such a cause as if all interested acknowledge their undoubted interdependence and combine to render mutual aid, to correct one another's observations, deductions, or plans by the light of their own experience, and to assist in the common cause.

The Australasian Union has a very similar task before it to that which the American Union had, and surely there is no reason why it should not achieve as good results. It ought to be possible to write of our Union, when it has been as long established, in language like that employed by Dr. J. A. Allen, the first president of the American Ornithologists' Union, sixteen years after that body had been formed. What he says emphasizes the need of united action, and shows what can be accomplished by it.

"Between isolated workers in any field, jealousies and misunderstandings arise, which personal contact tends to obliterate. Such was the case with our ornithologists for some years prior to the founding of the Union. There were two rival check lists of North American birds, each, perhaps, equally authoritative, though differing in important details, which led to confusion and a tendency to array our ornithologists into two hostile camps. This being recognized as a threatening evil of considerable gravity, one of the first acts of the Union was to appoint a committee on the classification and nomenclature of North American birds, so constituted as to include the most competent authorities on the subject and at the same time safeguard all conflicting interests. The work of this committee long since became a matter of history. It was conducted with the utmost conscientiousness and care; personal interests and personal bias were generously waived; differences of opinion were settled by appeals to facts and the evidence, with the result that agreement was established in respect to all points of nomenclature and other technicalities, and a new impetus given to systematic investigation. Thus, through the work of this committee alone, one of the primary objects in view in founding this Union was most happily accomplished."

After alluding to such important matters as "Bird Migration,"

"The Sparrow Pest," &c., Dr. Allen mentions that at the second congress of the Union it appointed a Committee on Protection of North American Birds, which has been continued to the present time, and has been an influence for good in this great economic and humanitarian work.

In the important matter of bird protection there is a great task before the Australasian Union. The Field Naturalists' Club of Victoria has done some good work locally from time to time. The Australasian Association for the Advancement of Science promised to be a larger sphere of usefulness in this direction. But possibly it has "too many irons in the fire," and the meetings only once every two years are not conducive to the continuous efforts needed for effective bird protection. At the Association's first (Sydney) session, 1887, a paper was read on "The Protection of Native Birds" (*vide* vol. i., p. 338), and Professor Baldwin Spencer secured the appointment of a committee to consider and investigate the question (page 33). The committee was reconstructed at the following (Melbourne) session, and brought up its recommendations (amended and approved by the Council) at Adelaide, 1893 (*vide* vol. v., p. 241, 242). But although eight years have passed since then, nothing practically has been done, except to carry out the one relating to the preparation of a systematic list of vernacular names for Australian birds, which was adopted at Sydney (1898) and published in vol. vii., pp. 128-154.

Probably one of the first acts of the Australasian Ornithologists' Union will be to start where the Adelaide Committee of the Australasian Science Association left off—namely, with the recommendations, which for the most part are these:—

- (1.) That close reserves, controlled by local honorary trustees, and supported by Government grants, should be proclaimed.
- (2.) That the existing game laws should be strictly enforced.
- (3.) That in all *Game Acts* provisions should be made for the proclamation of districts, comprising both Crown lands and private property, wherein particular species may be absolutely protected for indefinite periods.
- (4.) That special legislation should be introduced in all the states to provide for the protection of animals of economic value or particular biological interest.
- (5.) That a standing committee of local naturalists should be appointed in each State to deal with the protection of the native fauna.

All this cannot be accomplished at once, and it must ever be remembered that ornithologists and bird-lovers will have to "hammer, hammer, hammer" at some very apathetic skulls before due protection is achieved. The public must first be roused, then never be permitted to ignore the desired result.

The Union would achieve much, to commence with, if it only

got (No. 2) the existing *Game Laws* strictly enforced and *brought into line*, so that it may no longer be lawful to shoot, say, ducks on the left-hand bank of the Murray (Victoria) up to the end of July, and then to shoot on the right-hand bank (N.S.W.) for a month later. Obviously close seasons in similar localities should be assimilated.

"THE EMU."

The Emu (with the motto "Birds of a feather") is intended to be "an outward and visible sign" of union, and should prove of value in the good cause. It will provide a recognized means of intercommunication between all interested in ornithology, whatever their branch of that study may be, and afford all an opportunity of recording facts and valuable observations, and of giving publicity to those and their own deductions. Thus bird students will be kept in touch with one another, original study will be aided, and an Australasian want supplied.

It will be noticed that, despite the fact that Professors A. Newton and R. Lydekker prefer "Emeu" in their "Dictionary of Birds," it has been decided, with all due deference to those eminent authorities, to adopt the common Australian spelling of "Emu" in the title of this magazine. The reasons are, briefly, that this form of the word has been in use since 1774, is adopted by the new English Historical Dictionary, given as correct by Professor Morris in his "Australian English," and used by most of the standard authorities. It has also been embodied in the vernacular list of the Australasian Science Association, and is generally recognized as correct throughout Australia, where Emeu and its variant Emew are almost unknown. These grounds should be sufficient to stand upon, but, as kindly pointed out by Mr. T. S. Hall, M.A., there is the further consideration that Emeus is the title of an extinct genus of New Zealand struthious birds, and that when it became necessary to allude to members of the Dromæidæ in the plural, as Emeus, confusion might be caused. In conclusion, it may be mentioned that in the endeavour to get the fullest light on the subject an appeal was made to Professor Tucker, Litt. D., who so ably fills the chair of Classics and Philology at the Melbourne University, as to whether there was any classical origin for the word. His answer was that it has "no well-ascertained derivation," and that Emeu (through the current form in olden times) "was only a way of representing the same sound as in Emu (E-myoo), and from the phonetic point of view each is incorrect. . . . The question reduces itself to this—'Shall we adopt an old, phonetically incorrect, and rather unsettled spelling; or shall we adopt a spelling which, while phonetically incorrect also, has become usual, is rather neater in shape, and appears free from pedantry?' I should say 'Emu.'" If *The Emu* sins as to the orthography of its name, which seems hardly probable, it will not be without justification.

Emu (*Dromæus novæ-hollandiæ*) Feathers.

BY D. LE SOUËF, C.M.Z.S., &c.

IT has been usual to place the Emus in the order *Casuarii*, at the bottom of the classification of birds, but in the newest classification (Dr. Sharpe's "Hand-List of Birds") the Emus are given the primary place, in the order *Casuariiformes*. It is a happy circumstance, therefore, that the organ of the Aust. O. U. should be named after a member of the highest order of birds, both as regards classification and size, the size being exceeded by the Ostrich only; besides, the Emu is peculiarly Australian.

These noble birds have a wide range, being found in every part of the continent except in the dense scrub-covered ranges on the north-eastern coast, where the Cassowary takes their place. Emus were formerly found in Tasmania and on Kangaroo Island, and I have likewise found their bones on some of the islands of Bass Strait—namely, in the Kent Group and on King Island—which shows that they existed before Tasmania was separated from the mainland.

The late Mr. A. D. Bartlett described before the Zoological Society of London, on 24th May, 1859, what he thought was another species, and gave it the name of *Dromæus irroratus*. The type, he says, "was obtained with others far in the interior of South Australia, several hundred miles from Port Phillip." As Port Phillip is in Victoria, the exact locality that his specimens came from is somewhat vague. Subsequent to his description and to the remarks published by Gould in his "Handbook," all the West Australian birds were called *D. irroratus*.

In the Melbourne Zoological Gardens many live specimens from different parts of Australia have been received, including those from North-Western Australia, and they are practically all the same, and when the fully adult specimens—that is, over three years old—from the latter district are placed alongside those of Victoria or New South Wales one cannot distinguish any practical difference; but young specimens, both from New South Wales, Victoria, and Queensland, which have their feathers distinctly barred or spotted have been frequently received. In some cases nearly every feather was barred. The spotted plumage appears as they lose their down, but at the end of the first year many of their mottled feathers, which have got worn and ragged, are gradually shed, and new feathers, as a rule without bars, take their place, but occasionally in some birds barred feathers are again in evidence throughout the second and third years, especially on the upper part of the back and the base of the neck. For instance, there were two birds in their first year received from North-Western Australia. They both came from one nest, a male and female. The male lost all his barred feathers at the end of the first year, but the female, in her second year's growth of feathers, had a considerable number barred on



EXPLANATION OF PLATE.

- 1.—Barred feather from upper part of neck of a one-year-old Emu from North-Western Australia.
- 2.—Barred feather from back of one-year-old Emu from the Riverina district, New South Wales.
- 3.—Albino feather from back of Emu two years old, from North-Western Australia.
- 4.—Barred feather from flank of Emu nine months old, from the Riverina district, New South Wales. Shows portion of down still undetached from tip of newer feather.
- 5.—Barred feather from breast of Emu nine months old. Shows down still attached to tip of newer feather.
- 6.—Feather with barred end, from bird one year old, from South-Western Australia.
- 7.—Barred tail feather from bird one year old, from the Riverina district, New South Wales; similar feathers from other birds are often much lighter, sometimes nearly white.
- 8.—Barred feather from tail of a one-year-old bird from Gippsland, Victoria.

the upper part of the back, and in the third year a very few faintly barred, but these disappeared in the fourth year. Her appearance in her second year would agree very well with Mr. Bartlett's description, especially as she was slight and her feathers somewhat more silky than usual; but her nest companion was much larger and stronger, and had no bars after the end of the first year. Consequently, as has been shown, many young Emus have more or less spotted or barred plumage, but these spots as a rule disappear at or before the end of the third year, though in some cases they may be more persistent; and in a clutch of young birds from the same nest some are spotted and some are not, and some only faintly so, therefore I do not think *D. irroratus* can stand even as a variety.

Young Emus vary much in the colour of their plumage; some are nearly black, whereas others again are a light greyish-brown, almost stone-colour, with the variations between, but after the third year they are practically all the same, although in adults some have the ends of their feathers darker, and also darker for a longer distance down the feather than others, and others again, especially from North-Western Australia, have a dark reddish-brown tint and a lighter mark on the feather next to the dark end, which gives them a spotted appearance, and often before the fourth year many of the feathers have a white tip instead of black; but there are links between all the variations, and two Emus are rarely exactly alike. Some also have the feathers of the upper part of the neck of a much lighter colour than others, in some cases almost white. On two occasions only have I found individual pure white feathers on the back. I have only heard of one albino specimen, and that in Northern Australia, where it was reported to a local resident by the natives; one West Australian bird had several partially white feathers on its back. Regarding the texture of the feathers, there is again a considerable difference, as some are of a finer texture than others and more silky towards the base. There is always a difference in the two feathers that spring from one base—one is longer and also sharper at the end than the other.

These birds vary in size and height; some are much more stoutly built and some have longer legs than others. The male bird seems to regard the nest as his own special property, as he not only does most, if not all, the hatching, but also protects it if need be. The male and female do not vary much in appearance, but the former generally has the ends of his feathers darker, and has a considerably larger tail than his mate.

THE veteran ornithologist and author, Professor Alf. Newton, Cambridge (England), is the first person outside of Australasia to join the Aust. O.U. No country or clime—only the wide world itself—limits the work and enthusiasm of the true naturalist.

Petroeca ramsayi, Sharpe, a Variety of *P. goodenovii*, Vig. and Hors.

BY ROBERT HALL.

Petroeca ramsayi is said to be found only in the Northern Territory and North-Western Australia.

P. goodenovii is said not to be found in these areas, but in all others of Australia.

I have personally collected in Swan Hill, Victoria (21/2/1900), a skin of *P. ramsayi*, and I know of one being found near the centre of the continent, so that in the first place the distribution of each may be extended. To see and collect *P. ramsayi* in Victoria seems remarkable.

Now this Victorian specimen of *P. ramsayi* is only partially marked red on the throat, but the few feathers have that colour so definitely marked that it would not for a moment be called *P. goodenovii*, which has a black throat.

It had occurred to me, judging by the known distribution of the two species, that when the Red-capped Robins started from the Cape York Peninsula to populate our continent* the red-throated part went due west and had to stop at a little beyond the Fitzroy River, owing to geographical barriers; and that the black-throated part went due south as far as Victoria, then west to Albany, W.A., and north to a little above Geraldton, W.A. There it stayed, owing to the same desert barriers that stopped the downward western course of the red-throated part.

The above specimen appears to be a connecting link between the two. I mentioned the matter to Mr. G. A. Keartland, who tells me he saw several mature birds in North-Western Australia with only a flush of red upon their throats, and others without any.

The fact, in addition, of finding this abnormal specimen where "black throats" alone are said to be found, leads me to consider the two species one and the same. It is like a case of reversion, where the black pigment of the throat has turned out the red and the red of the forehead has turned out the black. This would tend to make the species a much modified off-shoot of *P. leggii*. However, this is by the way just now.

The Swan Hill specimen is a moulting bird, showing the wing quills and many of the interscapulum feathers still brown as in the young bird of the first year. It is interesting to note that this brown pigment is a combination of the red and black that are shown in strong contrast the following year. The forehead is a blaze of developing "reds," while the breast is uniform red and concluded in the moult of the season. The usual black parts of the adult plumage are nearly as black in this specimen.

It would have been interesting to know whether the next

* "Key to the Birds of Australia and Tasmania," Hall, pp. vi., vii., viii.

moult would have produced a stronger red on the throat or reverted to the more ordinary black, as is now usual.

Upon the evidence I make *P. ramsayi*, Sharpe, a variety of *P. goodenovii*, Vig. and Hors.

Bird Protection.

BY FRANK M. LITTLER, Launceston.

ALL lovers of our native birds view with dread the wanton destruction that goes on year by year in every state of Federated Australia. They feel that the time has arrived when united and strenuous efforts must be made if we wish our feathered friends, and even those we count as enemies, to survive and brighten our bush wilds with their gay plumages.

Small boys, with their "catapults" and "pea-rifles," are not the greatest offenders; it is that class of persons who ought to know better against whom we have to contend. An inborn, insatiable desire to kill something is one of the worst traits of Australian youths. They take their guns into the bush and are not content with legitimate game but must try their prowess on all and sundry that come across their path. They appear to feel that it is dependent on them to "slay, and slay, and slay."

Farmers are responsible for the destruction of a great number of birds, the reason for which being that they consider birds are responsible for a large annual loss of fruit and crops.

Such being the case they (the birds) are shot unceasingly whenever opportunity offers. I do not say that birds do not commit a certain amount of havoc every year among fruit and crops, but what I contend is that their good deeds far outweigh their bad, and this is patent to all who take the trouble to investigate the matter for themselves.

Would that our farmers and orchardists studied more to distinguish between friends and foes, and understood fully that if a bird in the summer takes its share of the produce, it in the winter pays it back with interest twice compounded by destroying countless numbers of hibernating larvæ, eggs, and full-grown insects, which in the summer would perhaps ruin his harvest of grain and fruit completely.

Fortunately, in this island State birds are not destroyed for the sake of their plumage, to satisfy the vanity of the fairer sex. But this is done to a certain extent in the other States, and in an alarming degree in nearly every other country in the world.

Now to consider the case of a suburban garden, with its limited stock of fruit trees, jealously watched over by their owner, who, in his mind's eye sees the luscious fruit ready for picking when the right time comes. In due course the fruit ripens, and the owner views it with expectant eyes, thinking how well some will grace the table at next Sunday's dinner.

But, alas for human expectations! the birds come and take a share. The owner is wroth, and vows to destroy them at all costs. He sets nets, traps, poisons, and shoots them, declaring that they are interlopers and have no business in his garden.

Let him pause a moment and consider: it is he and not the birds who is the interloper. It was their right to fly wheresoever they list before he or his forefathers inhabited the earth.

He, by his action (direct or indirect) has caused the forests to be levelled, and thus partly deprived them of their chances of obtaining food. How can he, in all common-sense, expect birds to know that they have no right to touch certain food on trees enclosed by fences? But have they no right? Are the fruits of the earth to be man's wholly and solely? I think not, more especially as man, in many instances, takes away from birds the opportunities of sustaining themselves on their natural food as was given them from the first.

During a visit to a certain district in this State a few years since, I inquired if there were any Magpies in the district, as I had not seen any. I was informed that they had all been shot, as the farmers considered they destroyed the grain by pulling it from the ground while in the milk.

In connection with the foregoing, the following little incident, which happened in England may not be out of place:—

A gentleman owning land in one of the counties was passing in a train, in company with a friend, a large field of corn just springing from the ground, which he owned. On the field were large numbers of Rooks, all intent on some work.

"Look at those Rooks," said his friend; "they are pulling up every bit of corn. You won't have a bit left."

Next day the owner, who was of an inquiring turn of mind, went and examined the field in question. Sure enough there were large quantities of corn on the ground. On examination it was found to have been attacked by grubs. To get at these grubs the much-abused Rooks had pulled up the diseased corn; not a single blade of healthy had been molested.

Farmers and fruit-growers are apt to jump to conclusions too quickly with regard to which are injurious birds and which are not, without duly investigating the habits of the various ones. If those farmers who accuse the Magpies of pulling up and destroying their corn would take the trouble to examine a field after they have been foraging there, they would find that it is only the diseased corn that is pulled up, and that in search of the enemy at the roots.

It has been stated that if all birds were destroyed from off the face of the earth, in five years it would not be habitable.

A writer says:—"If the arrangements of nature were left undisturbed, the result would be a wholesome equilibrium of destruction. The birds would kill so many insects that the insects would not kill too many plants. One class is a match

for the other. A certain insect was found to lay 2,000 eggs, but a single Tomtit was found to eat 200,000 eggs in a year. A swallow devours 543 insects in a day, eggs and all."

It is by destroying the equilibrium of nature that we become overrun with pests, there being not enough birds to keep the insects in check. Birds are the best "sure cures" for all kinds of noxious insects, but if the birds are destroyed because in their endeavours to save the farmers' crops they are observed to be foraging in his trees and fields, then the pests will get the upper hand, and there will be no checking them. No hard and fast line can be drawn between friends and foes of the feathered world. All the friends do a certain amount of harm, and all the foes a certain amount of good. No two persons would altogether agree as to which birds should be placed on either list.

As an example, I shall just mention one bird which I consider ought to be counted among the beneficial species. It is the White-eye (*Zosterops caeruleus*). These birds are fairly well distributed all over the island, and often may be found in large flocks round fruit-growing districts. They are considered by the majority of orchardists as unmitigated nuisances from their depredations among fruit, especially cherries and gooseberries. It cannot be denied these birds eat their share of fruit whenever they have the opportunity. I think I can affirm with a great deal of truth that there is hardly a bird that won't take fruit if it sees it growing within easy access, as it is on many fruit farms where the trees are planted almost right up to the edge of the clearing. During the autumn and winter months numbers of White-eyes come into the gardens in towns and eat off vast quantities of aphides from chrysanthemums and rose bushes. When pear slugs are full grown they feed on these to a large extent. Numbers of Codlin Moth grubs and other noxious insects are cleared off the trees or picked up on the ground by these industrious little birds. I am sure if anyone takes the trouble to observe them for a short time he will be convinced that their good deeds more than counterbalance their evil, and that without fear or hesitation they can be counted among the farmers' feathered friends, one that in a quiet, unostentatious manner helps him in his daily fight against the multitude of pests with which he is waging continual warfare.

In concluding, may I ask those who have the preservation of our native avi-fauna at heart to endeavour to check the ruthless slaughter of our best birds (not game birds) that goes on year by year through poison and the gun of the "pot-hunter." It is only a question of a few years and many of our birds will be as extinct as the Dodo. May I ask farmers and orchardists not to be too hasty in the condemnation of any and every bird they see on their fruit-trees and in their fields of growing corn? A little time spent in observation, and one or two shot and their crops examined, would save the lives of scores.

Feathered Friends or Foes?

BY "ORCHARDIST."

IT is, alas, sad to relate that the name of a Hawk cannot be spoken of in the presence of the average farmer without bringing forth some exclamation about a gun, for it is usual to associate the bird with a diminishing brood of poultry; and the Magpie, the Cockatoo, and the Crow are only thought of in connection with scanty harvests and empty wine vats. Little is it reasoned that by depriving nature of some of her agents the fitness of things is in danger of being deranged, thereby allowing some lower form of life to be ascendant; and when one season the locust, or the caterpillar, or the cockchafer devastates the fields, the farmer cries out and asks what he has done to deserve the visitation. Yet if questioned whether he would prefer to see a percentage of the small members of the fowl-yard disappear over the horizon in the claws of a Hawk, or patches on the outskirts of the crop destroyed by Cockatoos and Magpies—whether he would prefer these things to the possibility of having the whole standing crop eaten over in a night by the caterpillar, or all the estate denuded of vegetation by the locust, no food even remaining for the unfortunate horses and cattle, then there is no doubt what the answer would be. A beautiful balance has been made in the world of nature, and is preserved as long as the factors are in their right proportions. When this balance is destroyed, as often happens by man's wilful acts as much as by the march of civilization, then the offender suffers. Birds can be divided according to their manner of feeding—the carnivorous, or those which catch and kill small animals, reptiles, fishes, and birds for the purpose of food; then the insectivorous, or feeders on insects; and thirdly those which feed on seeds of grasses. Among the latter can also be put the fruit-eating birds (those birds which take as their natural food the native fruits of their forest home). Then, apart from, or at least out of these, can be found individuals which are omnivorous, to which a fixed diet is also a mixed one, and these are the birds against which man is wroth when he sees them leave their native feeding grounds for the cultivated fields.

It cannot be denied that devastators of vegetation, such as the locust, the caterpillar, and the cockchafer, have increased since the country was opened up, or at least their ravages have been brought more under notice on account of the attacks on the farmers' crops when native vegetation is wanting. Or it may be that the broad acres, being much more open and loose of texture through cultivation, are better adapted for the reception and nursing of the egg of such an insect as the grasshopper, or indirectly, by supplying sufficient food, in the shape of tender herbage, to the hordes of young insects after hatching, enable them to pass through their stages quickly, and, becoming

equipped with wings, make off in myriads to devastate the country through which they pass. And in the case of the cockchafer, which spends the greater part of its existence as a white grub living just under the surface of the ground, it can be well understood how loose soil would not hinder the insect travelling rapidly and procuring abundant sustenance in the grass rootlets ; and thus, when food is plentiful and easily reached, every larva will mature.

But, with the increase of these depredators, it is pleasing to notice that the hardier insectivorous birds are on the increase also, and for the same reason—the food is plentiful and easily secured.

Who has not watched the Magpie out in the fields in the early morning, walking leisurely to and fro, carolling away to himself for pure joy ? A step or two and then he stops, for he sees a slight ridge, hardly to be noticed above the level of the surrounding soil, but well enough the bird knows the cause of that ridge. With one eye he will often contemplate the position, wondering perhaps why the sign is so infallible ; then he steps up, and with one or two dexterous twists of the bill shovels away the earth and brings out a large, tasty grub.

But if a grasshopper hunt is the order of the day, then the Magpie must be more lively ; the young locust just hatched is easily picked up, but the older specimen requires some chase. A bird, unless an adept in grasshopper chase, is very ungainly. The farmyard fowl is very fond of the insect, but in endeavouring to catch it many awkward antics are gone through, and if the observer were not aware of what the fowl was after he might think the bird had taken leave of its senses. But the Magpie is much more graceful. The bird darts on the insect before the latter is aware of its presence, and very rarely misses its prey. The Magpie never gives chase to a locust on the wing, preferring to take its food on the ground. In the early morning many of the large locusts are sluggishly resting about the grass tufts, for it takes the heat of the day to enliven them. They are easily captured by the early bird.

After the morning's meal the Magpies retire to the timber to preen their feathers, and rest during the heat of the day. Late in the afternoon they are again out in the fields seeking the evening meal. The species of Magpie met with in the coastal districts chiefly of the south-east is the White-backed variety, and inland is found the Black-backed species. The former is the larger and more shy, but the latter is the more sprightly and energetic, and it is this species that is accused of destroying crops by pulling up the young plants. It is said that birds have been shot and on dissection the grain itself was found in the gizzards ; but this is hard to credit. It is not logical that an insectivorous bird should eat grain in any quantity when insect life is to be found readily, although, obversely, it is ad-

mitted that the imported Sparrow, normally a seed-eating bird, does at times prey upon small insects. The true explanation of the Magpie's depredations is possibly that the birds have discovered in pulling up the young cornstalk that they often uncover worms, grubs, &c., which were lying in the soil about the roots. This is just the position to look for the grub of the cockchafer, and also the cut-worm caterpillar.

I am also sorry to record that the Black-backed Magpie has taken to eating orchard fruits—the fig and the peach. Where this was noticed the Magpies are very plentiful. After feeding in the open, many birds take shelter in the fruit trees, and perhaps it has come about that while the birds were dozing at midday they were tempted to examine the ripe fruits around them. With their strong bills they very soon disfigure the soft fruits. They never touch the fig or the peach unless quite ripe.

But how can the farmer and the orchardist remember these little items, when he knows what an immense amount of good they do, what hordes of noxious insects they devour? Supposing one bird were to catch a score of grasshoppers every day for a week (that number would indeed be a very small ration), then a total of 140 can be credited to one bird. But one bird is only a unit of the flock usually found in the field. The Black-backed is very much more sociable than its southern relative; it is no uncommon thing to see 50 or 60 birds feeding together, even during the breeding season. One summer morning no less than 87 were counted on a field of nine acres. Fifty birds, devouring 140 grasshoppers each in a week, would account for 7,000 insects. Supposing, on a meagre estimate, a grasshopper would eat a square inch of grass-blade per day, then the farmer would have 7,000 square inches of grass for his stock which would not have remained his but for the Magpie. So the service rendered by this much-abused insectivorous bird is quite incalculable. The flute-like song or carol of the Magpie is indeed so well known that the Australian bush or meadow is not Australian without it. The bird has two other calls—the alarm note and a single whistling call.

The Raven, and its smaller relative the Crow, inhabiting the inland and western areas, are both as black as they are painted. Although insectivorous birds, yet they have a well-known liking for carrion. The squatter gives them very bad reputations, for in the lambing season they are known to destroy numbers of young lambs by picking the eyes out of the unfortunate animals newly born. But during the greater part of the year, when there is no mischief to be done, they are on good behaviour, and spend their time in assisting to keep the locusts in check. In some districts the Raven has developed a liking for fowls' eggs, and will rob nests that are any distance from the homestead. The bird carries the egg away whole in its bill to some quiet spot where it can enjoy the contents at leisure. One day

a friend found a china nest-egg lying some distance out in the paddocks, and concluded that some poor Crow had had a bitter disappointment.

When the fruit season comes round the Raven plays havoc among small fruits like the grape, and in this nefarious occupation it has an able assistant in the Grey Crow-Shrike. With their powerful bills the birds not only demolish the berries, but pull off whole bunches and wickedly throw them to one side. But, being wary, they only carry on their depredations on the outskirts of a plantation, whence they can retire on the slightest alarm.

The diurnal birds of prey, the Hawks and the Eagles, are always ruthlessly slaughtered whenever opportunity offers throughout the whole country. Some of the species are often guilty of taking chickens and young poultry, but does the farmer ever ask himself where these birds are during the greater part of the year, and what they feed on then? And is it noticed that they are never seen about the poultry yards during the springtime, when the young chickens are running about in numbers? The poor birds have offspring of their own to attend to, and are away in some secluded forest rearing their own young. Two species, the Brown Hawk and the Goshawk, are practically the only ones that are fond of stealing the poultry. The other larger species live on quadrupeds—rabbits, hares, &c.—and the smaller species on small birds; but are all very partial to reptiles, and must devour an immense quantity of lizards and snakes. The Eaglehawk is coupled with the Raven as being very destructive to young lambs. But the large Harriers or Swamp Hawks are never troublesome, for they live almost exclusively on frogs and reptilia.

The good character of the Laughing Jackass has of late been questioned, and rumours are about that he too has developed a strong liking for young chickens; but it is not at all possible that this harmless bird would ever become a pest to the poultry breeder, who in reality is bringing his losses on himself by his own foolishness in allowing chickens to run in places where there is no protection, and he has only himself to blame if a Hawk picks off some of the tasty morsels, or a Jackass, thinking he has found some new reptile which it is his duty to kill, batters the life out of the little creatures. One morning a domestic hen with a brood of chicks was making its way across a road in a small country village, when suddenly a Jackass swooped down and alighted on a small tree-guard only a few feet away. The next move would probably have shown his intentions, but the hen anticipated the move (she had evidently seen one of those fellows before), and with one bound knocked him off his perch, and the enemy was demoralized. Poor Jack flew off and laughed dejectedly to himself in a neighbouring tree.

Although of ungainly appearance, the Jackass is very quick in



No. 1.



No. 2.

1.—Brooding Gannets (*Sula sula* and *S. cyanops*).

2.—Lesser Frigate Birds (*Fregata ariel*) and Nests on Bedout Island,
North-West Australia.

capturing its food, which consists of small reptiles and mice. The bird selects some point of advantage, and keeps a sharp look-out for its prey, pouncing down upon it with lightning-like rapidity. At other times it feeds in damp and swampy ground, collecting for itself worms, grubs, slugs, and snails.

But most harmless and yet most useful of all our insectivorous birds is the Ibis. There are three species, and the largest, the Straw-necked, can be taken as an example, not only of the Ibis family, but of all other inland plain wanderers, like the Bustard, the Curlew, the Plovers, and the Herons. The Ibis lives in flocks, numbering from 10 to 20 to many hundreds, and these systematically prospect great stretches of plain when feeding. The flock walks to and fro, turning over small stones for slugs and snails, and catching the wary grasshopper in myriads, for on these great plains the locust is at home, and if unchecked would rapidly increase. But while the Ibis remains nature's balance will be preserved. They are curious birds in that they do not breed every season, and only in a good year do they nest in any number. The spring of 1900 was a good season, suitable in that there was the promise of an abundant food supply for themselves and their offspring. At one large swamp in Western Riverina two Field Naturalists came across a very large colony of birds nesting. The colony was made up of an immense number of flocks, which came from far and near, arriving at different times, for some of the companies were noticed with large young while others had just laid their clutch of 3 eggs. The birds were closely packed over 400 acres, and it was estimated that there were no less than 200,000 birds in the rookery. The crop of one adult bird examined contained actually 2,410 young grasshoppers, besides several caterpillars and snails. And when it is remembered that each bird, besides having at least two meals a day itself, collects food for its offspring as well, then some idea can be formed of the myriads of locusts these birds demolish. The snails found in the Ibis crop were those that harbour the sheep liver fluke in one of its stages.

Most helpful are the Cockatoos also. Although looked upon as a scourge to the farmer, yet they devour great numbers of grasshopper eggs, which they find in the ground. The female locust lays from 50 to 80 eggs in a small hole she has hollowed out for the purpose. The eggs are deposited in a compact mass, and these the Cockatoos root out with their strong bills and eat greedily. The Rose-breasted Cockatoo and the White Cockatoo, however, have bad reputations. They dig up newly-sown grain, and even after the crop has started will pull up the young plants for the sake of the grain, which still adheres to them. And, not content with this, they go through the field nipping off the young shoots as well. Then, again, in districts where maize is grown, the White Cockatoos destroy the seed cobs when they are ripening. The birds are extremely wary. They

are always in flocks, but while the main body is feeding several remain on a neighbouring tree as sentinels, and on the approach of danger give the alarm. The White Cockatoos are frightened away for a time by shooting, but the Rose-breasted will not leave—they simply go to another part of the crop. But the Cockatoos, of course, are only troublesome for a few weeks in the year, and after the crops are well above the ground their visits cease. Even the harm they do is infinitesimal in comparison with their good offices in keeping down locusts, &c.

Then there are several smaller members of the Cockatoo and Parrot family—the Rosella, the Blue-bellied or Blue Mountain and the Musky Lorikeets—which prove very troublesome at certain seasons.

The natural food of the first-mentioned consists of grass seed and native fruits, but all of them are very partial to the cultivated fruits also. It is not to be wondered at; they find the fruits grown in our orchards much more luscious than their native food, and consequently are tempted to try them—much to the owner's discomfort. The Blue-bellied Lorikeet also visits maize-fields and strips the cobs just as they ripen, but the Rosella has not shown a taste for this mischief yet.

There is much speculation concerning the reason why the Blue-bellied and the Musky Lorikeets have become depredators in the orchards, considering that they are brush-tongued species and their natural diet is the honey of the eucalyptus flowers; but the fact remains that they have taken a liking to cultivated fruits, and no amount of rough treatment will drive them away. It seems a useless thing to attempt to kill them by poisoned bait and shooting, for their numbers are immediately replaced by others from outside. But here is a suggestion by which their ravages can be lessened—remove temptation, in the form of the fruit, from their way. The 'keets do not come to the orchard until the fruit is ripening. Early fruits, such as cherries, they do not touch, for they are busy at that time with their parental cares. About Christmas the nesting and rearing of young are over; then the families unite and visit the orchards in large flocks. Finding fruit in a suitable condition, they remain as long as the supply holds out. But then there is no need to leave the fruit on the trees until ripe. Apples, pears, peaches, and apricots can all be picked when changing colour, and, in fact, ripen better off the tree. If this is done then there is no fruit to attract the 'keets, and they are cheated of the spoil.

The large Honey-eaters, the Wattle Bird and the Friar Bird, prove exceedingly troublesome by devouring soft fruits when ripening, and in certain districts the Bower Birds, the Orioles, and the Koel can also be included in the same category. All these birds, together with the 'keets, have no redeeming feature whatever. They take all they can get and give nothing in exchange. Their natural food consists of native fruits, grass

seeds, &c., and they do not assist in any way to keep down noxious insects. They give no compensation for their villainy.

In this short article it will be noticed that three classes of birds have been dealt with—*first*, the birds which are antagonistic to man's interests at particular seasons of the year, be they long or short periods; but these birds, it must be admitted, more than compensate for their bad behaviour by keeping in check insects which would otherwise certainly be the greater evil; *secondly*, birds which are content to serve the public good without taking or requiring any compensation; and, *thirdly*, those with no good intentions, giving no obvious compensation.

Of course, these divisions could be still further enlarged. In the first, for instance, we have those birds which trouble the agriculturist, the grazier, and the orchardist; then there are species—namely, the Bee-eater and the Wood Swallows—which the apiarist views with much concern, seeing that the poor little birds, merely chasing their natural food, sometimes demolish the honey bee, from which he is endeavouring to earn a livelihood. But the birds must not be destroyed wholesale on that account. Untold evils might arise if the factors now keeping them in abeyance were done away with. There are extreme cases, of course. A pair of Wood Swallows may take up their quarters in a garden with the express purpose of feasting on the luxury furnished by a hive in some secluded spot; then it would be expedient to do away with them; but that is no signal for the extinction of the whole race. On the other hand, it should be an incentive for a closer observation, in the course of which bird-life will not be unnecessarily wasted, but rather conserved, and thereby the inherent powers of nature fostered.

Enough has been written to point out the necessity for closer observation, for the birds must not be judged harshly. It would be an everlasting disgrace for a country, a nation, to destroy its avi-fauna; and neglect or imperfect protection practically equal the same thing. Surely we must admit that the destructiveness of some of the birds is, indeed, a small matter in comparison with the general good resulting from their presence, and if we do not take a broad view and still allow them their liberty then it will lead to our ultimate sorrow and loss.

Amongst Returning Birds.

BY H. KENDALL.

IF in September's early days one spends a few quiet hours in such a place as the fast-vanishing remnant of the bush between Ringwood and the Dandenong Creek he soon discovers that "the time of the singing of birds is come," and that some wanderers have returned. Not with "the voice of the turtle" in this locality as yet; though Ground Doves may possibly appear

as days go by. A nest of this species is recorded as taken here a couple of seasons since, and one hopes the birds may still be denizens of these hills. The Bronzewing now dwells afar off; but one knows that not so far away, where tea-tree lines the shore, the cooing of the little Doves, when spring returns, becomes monotonous. They began some weeks ago, what time the Blackbirds and the English Thrushes in suburban pines found joy in life again, and Indian Mynas and brown Sparrows talked of love, and nests, and young.

When a recent visit to Ringwood was made in company with one whose love for bird and bush is great as that of any man, the first native songster seen was a Rufous-breasted Thickhead, who, perched on flowering fruit tree, reserved his whistled psalm. But hardly was woodland entered ere "herald melodies of spring" were heard. A faint low call was first—too distant to be clear, though unmistakably a Cuckoo's voice, proclaiming that at least one small Bronze bird had left the northern lands to dwell with us again. "An invisible thing, a voice, a mystery" it remained, yet welcome as was ever migrant on his return to native land. Then nearer still it rang, a whistle with descending notes, soon followed by undoubted utterance of the common member of its clan. From valley to the west the mournful cry of the Pallid Cuckoo rose; and when we paused it was to listen to the voices of several of the Bronze Cuckoos, and to see one on the top of a dead tree, from which elevation he took his part in a bird harmony that grew in volume, with notes that rose as they poured forth. His voice broke often—an undoubted crack, that brought the question whether he was still in adolescent stage, or victim of a cold.

In the first hollow Fan-tails were about; a Pardalote emitted a few notes suggestive of metallic clink; Sittellas whispered frequently in their own quiet way, replied to by a Graucalus (old *melanops*) in weak, sibilant voice, so inappropriate to such a bird. He possibly had strayed across the line, for a little to the north in summer days these Cuckoo Shrikes have gatherings of their own on hillside slope and sheltered dell. Within this paddock Orioles long had summered, and were now at home. With Lowell one could say—

"Hush! 'tis he!
My oriole, my glance of summer fire
Is come at last."

From which tree-top their babbling melody first came could not be told; its utterers were unseen; but that it came was proof of spring's return as positive as hardenbergia's purple wreaths or tetratheca bloom, or as the warm north wind or sun's increasing power. Though fitting pendent boughs were there, no sign of nest appeared; indeed, throughout the day the evidence grew stronger that only singing, and not nesting, time had come.

What honour among small birds can be—or was it chivalry,

or mere gallantry of pre-nuptial days?—a pair of White-throated Tree-creepers showed. The male was clinging to a rugged tree, when suddenly the female came out of such hole as these birds choose wherein to build. Within her beak a yellow moth was held; but though the male was within touch he made no attempt to secure the prey, which certainly would have made a bite apiece. How different from city Sparrow ways.

Where a hill sloped to the south, beside the railway line, a shrubby, stiff-stemmed acacia clad the land with yellow primrose hue—*suaveolens* most appropriately; the sweetness of its breath at eventide was something for the memory to dwell upon. Above its blooms the Welcome Swallow darted frequently, Tree Martins joining in the quest for food, and some eight or nine Wood Swallows hawked persistently. It was a lovely sight. Was ever anything more dainty than Artamus on the wing, or curves more near “the line of beauty” than those described by these Wood Swallows as they flew, or aught more graceful than when one or other of the keen-eyed birds clung momentarily to rugged bark, or with a white-rimmed fan outspread it passed to handy twig? Each attitude was eloquent and elegant. Whilst we watched a zealous sentinel gave a danger call, all too quickly obeyed. It proved a false alarm; for first one skirmisher appeared and darted after prey; then came another, and another still, till all were back again. What they caught could not be seen; the only way to discover would have been to kill a bird and find out what its crop contained—a deed akin to sacrilege. The strong north wind would waft the insects here, and possibly the thicker fringe of timber would make them stay; or the favoured spot, where sunshine and humidity joined hands, may have made a fitting breeding ground for more than the mosquito.

Leaving this breath from Riverina’s plains, that brought as well suggestion of Tasmanian summertime, across the line, where silver wattles still were full of bloom, a Yellow-breasted Thick-head answered once to call of Rufous-breasted kinsfolk, who peered keenly at invaders of the thicket which they held as home, and whistled cheerily. Perhaps the tiny Buff-rumped Tit had told them we were harmless; neither he nor they displayed a fear. The Pied Fan-tail was not so friendly in his ways as those “dainty Ariels” the White-shafted ones, whose pinions gleamed within a few feet of us, and whose marvels of acrobatic skill rank them amongst the most noted and notable of dwellers in the creek-side scrub. He would be heard, not seen, on this occasion. Has anyone yet solved satisfactorily the problem why the White-shafted Fan-tail ventures so close to men, even daring at times to touch one’s hat or coat, or, as once seen, to perch on the muzzle of a gun? The Spinebills were almost as daring. Once, while we rested, two were “rifling boughs” within a couple of yards. Later on, a male hung on a slender

epacris spray, and probed its bells until the watchers were within a yard, its ruby eyes distinctly visible, then dropped to earth, and glided rather than ran through grass and twigs to where the purple "sarsaparilla" had enwreathed a bent-down wattle sapling. These blossoms he investigated in his search for food, and inspection after he had gone revealed the very place from which his nectar came. Has the "Cobbler's Awl" Bird been noticed feeding on this plant before? That the pea-shaped flowers have honey at their base we proved by tasting them. The whirr of Spinebills' wings suggested Quail, and in more open country these wanderers were about. The long-drawn "scrape-scape" of some Snipe, high in mid-air, had already broken the night silence nearer town, and on a later evening a cry of the real Curlew told that another traveller was back.

Rosellas had been amongst the first birds seen; others were afterwards observed, and a couple of Lorikeets were chronicled as passers-by. The Wattle Bird let all know he was near, and Garrulous Miners had remarks to make, perchance about the shocking behaviour of two Brown Kingfishers who disturbed the peace by wrangling as to which was favoured swain, and later had a duel across the creek. Meanwhile, within short distance from where we sat a lovely Blue Wren, in brightest marital garb, "a very creature of delight," was singing a true love song, and attitudinizing in Wren's choicest style, finishing his serenade by bringing his leg above his wing to scratch his head, as though puzzled as to what was next to be. The voices of these Warblers had been with us all the day, though not many could be seen. Two Thrushes, who had sung a canzonet, dashed by so closely as to be within touch, then observed the world in silence from a gum sapling for a while. A yellow-breasted friendly bird, awaking memories of mountain gully and seaside scrub, put in appearance. The "psalm of dawn" of this Shrike Robin came in late afternoon, in oft-repeated mellow note, with feeble twitterings for preluding stave; and to it followed "crack" like that of teamster's whip, recalling autumn days beside the Don, when *Psophodes* made his presence known to Bell Miner and to man. The Ground Thrush was not visible, nor was the Halcyon, whose advent September sometimes sees, but who usually prefers the North until October comes. Another missing was the lively Short-billed Tree Tit, generally an inhabitant of these parts.

As darkness drew near, the Magpies, "birds of liquid, piping song," who had given constant reminders (and once an angry warning) of their presence, became more active and musical; a Magpie Lark called loudly as it flew; and as we gathered a few wattle sprays—"each blossom laden with a thought"—and went homewards, rejoicing in the return of the birds, the "bats went round in fragrant skies" above the acacia where the Wood Swallows were. A couple of Brown Kingfishers sat

solemnly on telegraph wires, and seemed unheedful of the chorus of their mates—a true Australian hymn to dying day—which rose from all around. But neither “Jackass” nor Magpie had last word to say ; that was to be a voice of Spring. For us a Bronze Cuckoo had begun the day ; a Pallid Cuckoo ushered in the night.

Flycatchers v. Ticks—Gannets.

BY WM. M'ILWRAITH, Emu Park, near Rockhampton.

THE dreaded cattle tick continues to extend the area of its operations in Queensland, and there are some stockowners who anticipate that it will migrate slowly to the Southern colonies. It may be interesting to note that among the enemies of the tick is the common and familiar Black and White Fan-tail, or Flycatcher (*Rhipidura tricolor*). Cattle here are tick-infested, and I noticed a cow at my gate on which gravid ticks were very perceptible. She lay down to rest, and became the subject of attentions from a Flycatcher. It alit on the extended side of the cow, dug its beak into the hair, pulled and tugged, and dropped to the ground with something in its beak. It went through a gobble-gobble performance and rested for a few seconds. Then it searched on the cow's side, and again seized some object, pulled it out, and swallowed it. This proceeding it continued for some time. Though I was not near enough to see what it was feeding on, I have not the least doubt it was immature ticks. Other insects being scarce at present, the tiny ticks were evidently acceptable. The common fowl is a tick consumer, and picks the mite off cattle whenever it is visible and chuckie can get at it. Infested cows keep still while their feathered friends are attending to the parasites.

The weather here has been very cold, the sou'-westerly winds experienced coming off the snowfalls in New South Wales and South Australia. Among visitors driven north by cold weather are Gannets. They are not visible in summer. Now they are numerous close in shore, and it is most interesting to witness their aerial gyrations and diving. Yesterday forenoon (30th July) they were very busy ; at the turn of the tide—about three o'clock—the wind fell, and it became a dead calm, when they ceased diving. The calm lasted an hour, when one or two took wing again ; others could be seen sitting on the water in parties of half a dozen. There were brown immature birds besides the black and white.

MR. CLARENCE SMART, in June, shot on the shores of Port Phillip a Golden Plover. A veritable “stray,” indeed. What was the bird (a female) doing in Australia at midwinter, when it should have been breeding under the “midnight sun” on the tundras of Northern Siberia ?

Forgotten Feathers.*

BY EDWD. A. PETHERICK, F.L.S., &c., Streatham, London.

JAMES BACKHOUSE, who visited the colonies during the years 1832 and 1837, when on a mission with Rev. Washington Walker for the Society of Friends, frequently refers in his letters to objects of natural history.

When he came to Melbourne in November, 1837, he made several excursions up the Yarra to his friends, the Gardiners and Langhorne, and had opportunity of seeing nature in its original state round Melbourne.

On the 13th of that month he writes (after spending First Day with the Langhorne) :—

“J. Gardiner conveyed us to Melbourne in his boat. The river is fringed with shrubs and trees the whole way and enlivened with the constant tinkling chirp of the Bell Bird; the shrill whistle, terminated by a jerking sound, something like the crack of a whip of a coachman, is also occasionally heard here; and we noticed the Nonkin Bird, a small species of Heron, cinnamon coloured on the back, sulphur on the breast, and with a long white feather in its head.”

Again, on the 15th November, he writes :—“The number of blacks in the vicinity of Port Phillip, including its whole circuit with Western Port, is estimated from 300 to 500. . . . The plants which yield them sustenance are . . . Kangaroos, Emus and other birds, and opossums are also generally eaten by the blacks, and are abundant, though the Emus are fast retiring before the white population and their flocks and herds. The large bird of the Crane kind, colonially called the Native Companion, and the Bustard, denominated Wild Turkey, are also plentiful; and there are yellow-tailed and red-tailed Black Cockatoos, round-headed White Cockatoos, Parrots of various kinds, Pelicans, Black Swans, Ducks of various kinds (one large species has a white patch upon the wing), White Hawks, greater Laughing Jackasses, Kingfishers, Quails, and various other birds, not to omit the Piping Crow, with its cheerful note, and the Black Magpie. . . .

“Among the vegetable productions which mark this as an Australian settlement, and at once distinguish it from Van Diemen’s Land, are the . . . and in the animal creation the tinkling voice of the Bell Bird is scarcely less striking and distinctive. . . .

“On the 16th November . . . after dining with John Batman, he presented us with some oval baskets, the manufacture of the blacks of this district. . . . The blacks often

* As the early literature on ornithological notes is scarce and scattered, the editors invite, under this heading, any interesting items that may have been overlooked, for want of reference, by recent authors—notes likely to be found in old accounts of exploration or in scientific magazines.

bring in the splendid tails of the Australian Pheasant, which are said to abound among the hills.”—(*Backhouse, Letters*, part 5, 1839, pp. 6-10.)

“The blacks often bring in the splendid tails of the Lyre Bird, *Menura superba*, which is called in Australia the Pheasant or the Bird of Paradise. It is said to abound among the hills of this district. John Batman has some fine Emus captured here.”—(*Backhouse, Narrative*, 16th November, 1837-1843, p. 506).”

Stray Feathers.

I AM indebted to Mr. Tom Carter for the skin of a Bare-eyed Cockatoo, *Cacatua gymnopsis*, from the region of the North-West Cape, which tends to prove that the bird I debited for that district* as the Long-billed Cockatoo (*Licmetis pastinator*) is really *C. gymnopsis*. Therefore, obviously, it makes a good note for “stray feathers.” In 1890 I gave Western Australia as a habitat of *gymnopsis*,† but appear to have turned my back on myself without sufficient reason, except that I was swayed from the actual fact by Mr. Carter’s fascinating field notes. Possibly the Cockatoo noted by Mr. G. A. Keartland, of the Calvert Expedition, as having been noticed between Mullawa and Cue, and again seen in countless numbers near the Fitzroy River, was likewise referable to *C. gymnopsis*, and not to *C. sanguinea*, as stated.‡ It is to be regretted that a skin was not preserved for confirmatory evidence, especially from the Fitzroy, where the birds were so plentiful.

A Halcyon (*H. sordidus*) accompanied the Cockatoo, and was interesting from the fact that I have not noticed this species recorded previously for the Western Coast. Date on skin, 14th June, 1900; locality, Point Cloates.

Mr. Carter also forwarded another Halcyon, which he shot at Vasse, in the south-west, on the 3rd February last. It resembles closely the common *Halcyon sanctus*, but has decidedly a more bluish (bluish-green) coat, while the nuchal band and all the under surface are white, instead of being buff-coloured as in the *H. sanctus*. Should the examination of a series of specimens from Western Australia prove the bird to be a new or Western variety, I venture to suggest for it the name of *H. westralasianus*. The following are the dimensions in inches of a male of both kinds:—

H. sanctus.—Length, 8; bill, 1.45; wing, 3.55; tail, 2.25.

H. westralasianus.—Length, 8.5; bill, 1.6; wing, 3.7; tail, 2.4.

A correspondent while Quail shooting near Melbourne during midwinter (July) flushed a Pipit (*Anthus australis*) from a newly-hatched clutch of young.

* “Nests and Eggs of Australian Birds,” p. 621.

† Proc. Roy. Soc. Vict., vol. iii. (new ser.), p. 4.

‡ Proc. Roy. Soc. S.A., vol. xxii., p. 169.

"Astray" for 77 years! Recently (April, 1901) I described a black and white *Malurus* (*M. edouardi*) in the *Victorian Naturalist*. Since I have been induced to refer to Quoy and Gaimard's original figure of *M. leucopterus*, which Gould queried, and substituted for the species his own blue and white figure (vol. iii, pl. 25). This transposition was apparently accepted as being correct by the "British Museum Catalogue" (vol. iv., p. 290). In Quoy and Gaimard's figure I at once recognized a generally fair drawing of *edouardi*. Should the black and white Wrens of Barrow Island and Dirk Hartog Island (isolated localities about 500 miles apart) eventually prove the same species, then after a lapse of 77 years the real *M. leucopterus* has been re-discovered, while Gould's long-standing provisional *M. cyanotus* will become the proper name for the blue and white bird.

A. J. C.

* * *

DR. CHARLES RYAN, when out quail-shooting, near Melbourne, the season just closed, captured a number of Plain Wanderers. In one day he caught six. The Wanderers squatted so closely (sometimes on the bare ground without any cover) before the dogs that the Doctor had only to drop his hat on the sitting bird. The captives, which are exceedingly tame, have been divided among some private aviaries, where the birds exhibit indications of breeding.

* * *

MR. E. D. BARNARD, about the middle of July, found near Gladstone, Queensland, a nest containing eggs of the Spotted Ground Bird (*Cinclosoma punctatum*). Surely a northern range and an early season for this species.

* * *

"PAINTED FINCHES (*Emblema picta*) have been quite common lately (June)."—Tom Carter, Point Cloates, W.A.

From Magazines.

A CORRESPONDENT in a recent number of *The Ibis* chronicles the fact that the Rhinoceros or Buffalo Bird (*Buphaga*) has earned the vernacular name sometimes applied to it (Beef Bird) by combining with its old quest for insects on the skins of cattle, &c., an attack on the bodies of the beasts. It is now, like the Kea of New Zealand, a flesh-eater. It would be interesting in such a case to discover why the change of habit took place. The only change of environment apparent at first sight is the substitution of sheep, oxen, &c., for the native fauna, and for many years after the introduction of these animals the *Buphaga* was looked upon with favour by the settlers. Its bad habits are of recent growth.

* * *

ACCORDING to *The Ibis* (July, 1901) the specimens of birds collected by the Governor of New Zealand (the Earl of Ranfurly) during various trips to the outlying southern islands have been received at the British Museum. Although the birds were merely preserved in formalin, successful skins were made. Besides two Southern Mergansers (*Mergus australis*) and the Flightless Duck (*Nesometia aucklandica*), there are specimens of a new Cormorant (*Phalacrocorax ranfurlyi*)—named in honour of His Excellency—and of other rare birds.

* * *

The Victorian Naturalist—the organ of the Field Naturalists' Club of Victoria—has the distinction of having published more matter in ornithology and oology than any other Australian magazine. The issues for July, August, and September (1901) contain a series of field notes by Dr. Wm. Macgillivray on "Some North-West Queensland Birds." The notes, although more or less brief, are sufficiently succinct, and many are quite new. Through the instrumentality of the Doctor and his brother, Mr. A. S. Macgillivray, two new birds from the district in question have been described by Mr. A. J. North, of the Australian Museum—namely, *Ptilotis leilavalensis* and *Barnardius macgillivrayi*.

In the August number Mr. Robt. Hall has described a distinctly new and interesting Owlet Nightjar, which he has called the Rufous—*Egothales rufescens*. Its characteristic name adequately describes the creature. In the September number he also describes a new Pseudogerygone—*P. tenebrosa*, or the Dusky Fly-eater. This little bird, on account of its sombre-coloured tail and general unassuming dress, and by having the least conspicuous markings, is distinguished from the other known members of its genus. It is noticeable of late that Australian authors in describing new birds also coin an appropriate vernacular name for the species—a distinct step towards popularizing ornithology. Under "New Nests and Eggs," Mr. Hall furnishes descriptions of the nest of the Yellow-tinted Honey-eater (*P. flavescens*) and the nest and eggs of the recently described Rufous Bush Lark (*Mirafra woodwardi*, Milligan). Mr. Hall acknowledges his indebtedness to Mr. J. P. Rogers, who collected all the above-mentioned material in North-Western Australia. Regarding *M. woodwardi*, some ornithologists (*Naturalist*, p. 70), without having seen the type, hint that the bird is possibly the well-known *horsfieldi*. The authority, and not his critics, is responsible for the naming of the new species. Mr. Milligan is starting in a new and comparatively unexplored field. Whatever ornithologists do, let them not discourage one another.

* * *

MR. THOMAS CARTER, in *The Zoologist* for July last, contributes an exceedingly interesting and chatty chapter on "Notes from Point Cloates, N.W. Australia." A favourable rainfall had

created a "lake" in the locality, on the "islands" of which were rookeries of White-headed Stilts, Avocets, Gull-billed Terns, Red-kneed Dottrels, &c. This was in the winter of 1900. A Crow's nest with the unusual number of 7 eggs was found on the 29th June. A Spotted Harrier's nest was observed on the 12th July. "Western records" were established for the Black-throated Butcher Bird and the Yellow-throated Miner, both nests being secured on the 20th July. Some hours before daylight, by the light of the moon, the "beautiful, rich, flute-like notes of the Butcher Bird" were heard. Other "oologists" were about besides Mr. Carter and his dusky "Native Companion." In a colony of breeding Fairy Martins under a slightly hanging, shaly cliff, two of the nests were discovered occupied by snakes. Mr. Carter went below and fired shots into the respective nests, when out dropped Carpet Snakes, so tightly coiled that they rolled down to the foot of the cliff. Each reptile contained two or three of the Martins. On another occasion, on poking a snake out of a hole in a rock and killing it, Mr Carter found it had "got outside" of four Chestnut-eared Finches, which had evidently come to slake their thirst at a small waterhole near.

Review.

[Australian Museum, Sydney. Special Catalogue No. 1. "Nests and Eggs of Birds Found Breeding in Australia," by Alfred J. North, C.M.Z.S., Ornithologist, Australian Museum. (Second edition of Catalogue No. 12, entirely re-written, with additions). Part I., containing pages 1-36; plates A 1, B 1. Printed by order of the Trustees of the Australian Museum: R. Etheridge, jun., J.P., Curator. F. W. White, printer, Market-street west, Sydney. 1901.]

ALL ornithologists and lovers of birds will hail with satisfaction the advent (of the first part at least) of the Australian Museum's "Special Catalogue No. 1," under the title "Nests and Eggs of Birds Found Breeding in Australia and Tasmania."

Judging by the initial part a great deal of laborious study and patient toil have been bestowed upon the production, which is really more of a "life-history" of our birds than a work on "Nests and Eggs." The title does not do justice to the wide, not to say ambitious, scope of the author's work, and, as it will be commonly cited, is misleading. It is cumbersome, too; hence one wonders why it was unduly lengthened by the words "and Tasmania." Every zoologist reckons Tasmania as a part of Australia, and even in Gould's day the species found in that island were included in his "Birds of Australia." And surely it is an inadvertence that "Nests and Eggs of Australian Birds" has been printed on some of the plates, that title having been previously used by another author, who had announced his appropriation of it long before his book actually appeared. As a whole the work promises, when completed, to be the greatest publication on Australian birds since Gould's great volumes, and alike to scientific or non-scientific student will be invaluable. It

should be in the hands of every ornithologist and in every public library. Gould's work will always be the standard authority, but Mr. North's possesses the advantage that our fuller knowledge of native birds and their ways is embodied in it.

The concisely written descriptions of the adult birds (male and female) are valuable aids for the identification of species; those of the eggs are hardly so succinct, and are rather over-elaborated as to detail. A scientific work, such as a museum catalogue, should doubtless, to be complete, record all known variations of form and colouration; but in this case would it not have been more advantageous and less confusing for the ordinary student (and the majority of readers will belong to this class) if the variations had been more clearly differentiated from the "type?" The remainder of the book is admirably written, and must give pleasure and enjoyment to all who peruse it, and the whole work is such as is only begotten by the experience of a lifetime, or penned by one whose heart is in his task. The study and research that have gone to the making of it are revealed in the chapters on the perplexing species of the genus *Strepera*, of which Mr. North's handling is both good and lucid. It is indeed interesting to learn that he has identified *S. fuliginosa* from as far north as Central Queensland; but is he justified in omitting South Australia from the geographical range of *S. cuneicaudata* and *S. graculina*?

Whilst no "errors of commission" are noticeable in this first part of Mr. North's work, which deals with the families *Corvidæ* and *Paradiseidæ*, some of his omissions are likely to discount the high standard of his writings. Acknowledgment, or reference to prior work, is an "unwritten" law both in science and in literature; yet, whilst the author frankly acknowledges notes and specimens received from various correspondents, and refers to older, even ancient, authorities, he entirely ignores the work of contemporaneous authors on Australian oology. As he holds a high position in our ornithological world, and represents his branch in the premier natural history institution in the Commonwealth, one would hardly expect him to thus lay himself open to adverse criticism. He could afford to be generous. One example of this shortcoming may be cited. He refers with pardonable pride to his having first described the eggs from New Guinea of the rare genus *Phonygama*, but the first descriptions and historical findings of the eggs of three species of *Australian Rifle Birds** mentioned by other authors are quite ignored. Compared with *Phonygama*, these birds are equally interesting, rare, and beautiful. Ignoring such items as these is all the more remarkable when it is borne in mind that the

* *Ptilorhis paradisea*—Campbell—*Vict. Nat.*, vol. xiii., p. 145, with plate (1897). *P. victoriae*—Campbell—*Vict. Nat.*, vol. viii., p. 134 (1892); Le Souëf—*Proc. Roy. Soc. Vict.*, vol. v., fig. (1892). *P. alberti*—Le Souëf—*Ibis*, p. 394 (1897).

"type" egg of the Victoria Rifle Bird, discovered by Messrs. D. Le Souëf and H. G. Barnard on the Barnard Island, became the property of the museum to which Mr. North belongs.*

From photo-mechanical and typographical points of view the work leaves little to be desired. It is admirably printed on coated art paper, quarto size, with broad margins. The half-tone blocks of nests are splendid, but the uncoloured figures of eggs suffer somewhat from "halation," affecting seriously the markings about the "high lights." Where subscribers have ordered coloured copies, however, this fault will probably not exist.

In conclusion, the author, and all concerned with him in his task, are to be congratulated on the book's general excellence, while the trustees deserve hearty thanks for allowing subscribers to obtain it complete (uncoloured plates), at 25s. It is a gift at such a price.

Mr. Robt. Hall on the Genus *Gymnorhina* (Magpies).

IN the "Proceedings of the Royal Society of Victoria," vol. xiv. (August, 1901), Mr. Hall contributes an interesting and most remarkable paper on the Australian Magpies, of which there are four reputed species. Should the indefatigable author never write another article on ornithology, this one alone will render him famous—if all his deductions can be proved—for all time.

It appears to Mr. Hall that far away back in the dark ages an extinct or ancestral "Piping-Crow" took on the colour of its times, and was a "uniform black type," and out of it evolved "one species only, *G. leuconota* (White-backed Magpie), with one variety, namely, that having a black back, known as *G. tibicen*." As the original type was supposed to be black, one would have expected to find the bird with most black about it (the Black-backed) *the species*, and the further removed White-backed bird *the variety*.

The article bristles with hypotheses and exceptions. But do not exceptions prove the rule? It is hard to define a species from a sub-species or variety, but it may be fairly taken for granted that *a species* stands good where the specific markings or features are *constant as a rule*. Upon this rule, as well as on geographical distribution, the Magpies can be readily divided into four species or races, at least, which Mr. Hall has not apparently disproved. (1) There are the adult birds (male and female respectively) with white and grey backs (*G. leuconota*) confined to the south-eastern coastal region chiefly; (2) the lesser-sized white and grey backs (*G. hyperleuca*) to Tasmania; (3) the white and dark grey or black backs (*G. dorsalis*) to the western territory; while (4) the black backs (in both male and female), *G. tibicen*, represent the

* Report of Trustees for the year 1893, p. 4.

great balance of the continent, particularly the eastern half. With regard to the nestlings of the extreme eastern and western "White-backs" there is a noticeable difference. Those of the east (*leuconota*) possess *rust-coloured or greyish mottled* backs, while those of the west (*dorsalis*), not to mention their longer and narrower bills, have *brownish-black or almost black* backs.

With regard to the rule of the Tasmanian smaller race of White-backs, Mr. Hall does not explain two potent factors. If not a good species, why is the race smaller, when it is the rule that Tasmanian birds of other species are *larger* than their representatives on the mainland? And why are no Black-backs found on the island? Again, can Mr. Hall explain why no White-backed birds exist, say, from the region of the Murray (excepting near its source and mouth) to the district of the Gulf of Carpentaria—the great habitat of the Black-backs? By the way, it may be noted too that the further north the smaller the birds. How does that fact coincide with the smaller White-backs being further south in Tasmania?

Mr. Hall's material would have possibly been stronger were it not mostly collected in Victoria, where the Black and White-backed varieties inosculate, and where it is likely that hybrids occur, instead of selecting specimens from the strongholds of each "so-called" species. The instances he has quoted at length from a correspondent at Minyip, Victoria, are hardly fair tests, because it is a locality where the two species are likely to overlap, and possibly he has over-estimated the number of "hybrid-like" birds in the neighbourhoods of Bacchus Marsh and Western Port—there being only one or two known examples *in skins*, at all events.

Taking the paper as a whole, the author has put a deal of thought and originality into it. He could not have selected a more popular class of birds for Australians. No doubt it will stir up investigation, and we hope to publish in due course in the columns of *The Emu* correspondence on this fascinating subject from all parts of Australia.

A Parrot Exhibition.

THE exhibition of Parrots, &c., at the South Suburban Canary Show in July was a genuine success, there being 105 exhibits, comprising 17 species of Cockatoos, Parrots, and Parrakeets. Such a collection of gay forms has not been previously seen in Australia.

It is to be hoped the exhibition will induce bird-lovers to study more thoroughly aviculture by building spacious aviaries to encourage Australian birds to breed (as has been successfully done in England, Germany, and India), instead of confining their pets in small cages and teaching the occupants merely to speak and whistle.

The Cockatoos were represented by 7 White, 4 Long-billed (Corellas), and 3 Rose-breasted (Galahs) varieties. Although the greatest competition was between the Whites and Corellas, a Galah carried off the first prize. The Large Parrot class consisted of 8 King and 4 foreign Parrots, 3 Pale-headed, 4 Crimson, 4 Yellow-banded (Port Lincoln), 3 Mallee (Barnard's), 5 Black-tailed (Rock Peblers), and 2 Green Leek Parrakeets. The Kings carried off the first and third prizes, with a foreign parrot second. Perhaps it was a pity that the third prize went to a second King when so many other splendid parrots bade for the judge's verdict. The 48 Rosellas had a class to themselves. So many beautiful and brilliant competitors made the judge's task not an enviable one, nevertheless the three prizes and five certificates were popular awards.

Of the Small Parrots there were 6 Cockatoo, 2 Warbling Grass (Betcherrygahs), 1 Yellow-vented (Blue-bonnet), and 1 foreign Parrakeets. The Blue-bonnet (usually a wild bird in the open), by its homely manner and good dress, made a fair claim for the award given to the second Cockatoo Parrakeet.

In future perhaps it would be better to break up the exhibits into more classes, giving one prize only for the best bird in its class or species.

About Members.

MISS AMELIA PIKE, 77 Princess-street, Kew (V.), enjoys the distinction of being the first life member of the Australasian Ornithologists' Union.

Another good example. Mr. John Cumming, Mt. Violet, Camperdown, has carefully preserved the Bustard and other wild fowl on his estate, "Keri Keri," Riverina, for the last 23 years.

Mr. A. W. Milligan, Perth (W.A.), is contemplating a trip to the southern Karri tracts in quest of the Noisy Scrub Bird (*Atrichia*).

Mr. T. A. Brittlebank, accompanied by his brother, intends making an inland field excursion this spring.

Messrs. D. Le Souëf, G. A. Keartland, and Robt. Hall have been appointed to represent the Field Naturalists' Club on a committee consisting of naturalists, sportsmen, dealers, &c., to draw up suggestions for guidance of the Minister before any alterations are made in the present *Game Act* of Victoria.

Mr. Alex. Morton, Hobart Museum, on behalf of the Fisheries Commission, has sailed for British Columbia for a consignment of Salmon ova for acclimatization in Tasmania.

Mr. Robert Hall has gone to Brisbane for three months to undertake some zoological work, under Mr. C. W. De Vis, for the Queensland Museum.

The Emu

Official Organ of the Australasian Ornithologists' Union.

"Birds of a feather."

VOL. I.]

JANUARY, 1902.

[PART 2.

AUSTRALASIAN ORNITHOLOGISTS' UNION.

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OBJECTS, &c. - - -

 THE objects of the Society are the advancement and popularization of the Science of Ornithology, the protection of useful and ornamental avifauna, and the publication of a magazine called *The Emu*.

The business of the Society shall be conducted by a Council, consisting of a President, two Vice-Presidents, Secretary, Treasurer, two Editors of *The Emu*, and four members; each office-bearer and member of the Council shall retire at the end of each financial year, but shall be eligible for re-election.

The Annual Meeting shall be held in the capital of one or other of the different States, such capital to be decided at the previous Annual Meeting.

Every member shall be required to pay an annual subscription of fifteen shillings, due on the first of July each year.

The offices of the Society shall be at the office of the Hon. Secretary of the Society for the time being, or at such other place as the Council may appoint.

Australasian Ornithologists' Union.

INAUGURAL SESSION.

PRELIMINARY LECTURE.

THE inaugural gathering of the Union was begun in Adelaide on 31st October, on which day a party of members arrived from Melbourne, and were received at the railway station by local ornithologists. In the evening a lecture, illustrated by admirable lantern views, was delivered in the Federal Hall, Grote-street, in the presence of His Excellency Lord Tennyson, Lord Richard Nevill, the Chief Justice (Sir Samuel J. Way) and Lady Way, and a large and representative audience. The subject was "An Evening with Australian Birds," by Mr. D. Le Souëf, C.M.Z.S., and the chair was taken by the Hon. T. H. Brooker, Minister of Agriculture and Education. The lecture was arranged by and under the auspices of the various scientific societies of Adelaide, including the South Australian Ornithological Association, the Field Naturalists' Section of the Royal Society, the Birds Protection Society (Adelaide Branch), the Native Fauna and Flora Protection Committee, and the local Photographic Society.

In introducing the lecturer, Mr. Brooker said his department had great interest in the protection of native birds, and had done all it could to foster a love for them among the children by publishing articles and issuing placards giving views of the birds, and interesting accounts of their habits. These articles had been so well appreciated that arrangements had been made by neighbouring States for republication in their territories. He was glad, on behalf of the Government, to welcome Mr. Le Souëf and his fellow-visitors, and hoped that, although they were "birds of passage," their visit would be pleasant to themselves and profitable to South Australia.

Mr. D. Le Souëf then spoke for about two hours on the habits and nests of a number of Australian birds, alluding to many points of interest in connection with them, also to how useful they were to man, emphasizing the fact that the more people knew of and appreciated the birds around them the better protection they would afford those feathered friends. The photographs (taken by the lecturer during various trips) covered a great range of bird life, and included inland as well as coast and sea scenes, the last series showing the White-breasted Sea Eagle, the home, &c., of the White-capped Albatross, views explanatory of Albatross flight, &c. A view of Ibises in a Riverina swamp, and the computation that this immense bird colony alone could account for some 25 tons of grasshoppers per day, evoked great applause, as did the pictures of a vast rookery of Penguins and those illustrative of peculiar phases of Pelican life. The lantern was well worked by Mr. R. B. Adamson. At the conclusion of

the address Lord Tennyson and the Chief Justice heartily congratulated the lecturer.

THE GENERAL MEETING.—FIRST DAY.

The afternoon of 1st November was devoted to a visit to the Museum, where Messrs. A. H. C. and F. R. Zietz courteously spent some hours explaining various matters of interest.

In the evening, at the Royal Society's Hall, the first general meeting was held, the chair being taken by Mr. A. J. Campbell, who thanked the South Australian members for the hearty reception accorded to visitors from the neighbouring States.

Instead of reading the full minutes of the various meetings of the provisional Council it was agreed that the secretary should give a digest of the proceedings from the formation of the Union up to present meeting. This having been read, Sir Samuel Way moved that the minutes of preceding meetings be confirmed. Seconded by Mr. A. H. C. Zietz, and carried.

Letters were read from their Royal Highnesses the Duke and Duchess of Cornwall and York, accepting the positions of co-patrons (the only favour of the kind conferred during their Australian tour); also from Professor Alfred Newton, of Cambridge; Dr. P. L. Sclater, of the Zoological Society, London; and the British Ornithologists' Club (through a proposition of the Hon. Walter Rothschild), conveying congratulations on the formation of the Union and the publication of the first number of *The Emu*.

The retiring members of the provisional Council were then elected as office-bearers* for the ensuing year, on the motion of Mr. J. W. Mellor, seconded by Mr. A. G. Campbell, and the acting-president took the opportunity of thanking the members of the provisional Council for their hearty support.

Mr. A. H. C. Zietz, C.M.Z.S., one of the vice-presidents, having taken the chair, Sir Samuel Way proposed a vote of thanks to the retiring committee. Seconded by Mr. Symonds Clark, and carried.

The secretary then read the list of paid-up members, and suggested that they be recognized as founders of the Union.† Moved by Mr. A. J. Campbell, seconded by Mr. Thomas Hardy, and carried.

The provisional rules were adopted as the permanent rules of the Union, on the motion of Sir S. Way, seconded by Mr. A. Mattingley.

The secretary proposed that Dr. Sclater be elected an honorary member, adding to his motion, on the suggestion of Mr. A. J. Campbell, the names of Prof. Newton and Dr. Bowdler Sharpe. Seconded by Mr. Alfred Compton, and unanimously agreed to.

* See first page this issue.

† These names will be published separately, together with the rules for the use of members.

PRESIDENT'S ADDRESS.

Colonel Legge, R.A., F.Z.S., &c., the president, not being able to attend, forwarded the following letter and his address :—

HOBART, 24/10/01.

Dear Sir,—In sending you my address, which you have kindly consented to read, I must express my sincere regret at not being present at the inaugural meeting of our Union.

I trust and wish heartily that you may have a very successful meeting, and that it will be the beginning of a sure and strong foundation for the Union, whose labours I hope to see appreciated in the old country.—I am, very faithfully yours,

W. V. LEGGE.

Col. Legge's address was as follows :—

In thanking the members of our newly-established Ornithologists' Union for the honour they have done me by my election as its first president, it is my privilege to-day to warmly congratulate those Australasian ornithologists who have thus banded together and successfully launched this Union on the sea of their hopes. In doing this I also express the earnest desire that our brotherhood will be able to advance the science of ornithology in Australia to the same extent that the parent institution, the British Ornithologists' Union, has done in England and Europe, and that the Union will take an honoured place by the side of the latter and live to see its labours amply appreciated in the old country.

The members of the Australasian Ornithologists' Union have decided to give to the world the result of their labours through the medium of a periodical styled *The Emu*, thus following the example of the British Ornithologists' Union, whose well-known and valued journal, *The Ibis*, has through a long series of years done so much to advance the science of ornithology in England. We should, therefore, realize at the outset of our career the fact that the measure of our success will assuredly depend on the character of our publication both as regards subject material and illustrations, and we should make this idea the mainspring of all our work. The British Union has depended on the excellent reputation of its journal for its existence, and our Union will have to similarly depend on *The Emu*.

At this period of my remarks it may not be out of place to comment on the causes which led to the establishment of the British Ornithologists' Union, and this can best be done by quoting from Dr. Sclater's preface to the first volume of *The Ibis*, of which he was editor. He says :—

"For some years past a few gentlemen attached to the study of ornithology, most of them more or less intimately connected with the University of Cambridge, had been in the habit of meeting together once a year, or oftener, to exhibit to one another the various objects of interest which had occurred to them, and to talk over both former and future plans of adding to their knowledge of this branch of natural history.

"In the autumn of 1857 the gathering of naturalists was greater than it had heretofore been, and it appeared that among some of them present there was a strong feeling that it would be advisable to establish a magazine devoted solely to ornithology.

"In November, 1858, the annual assemblage took place at Cambridge, and after due consideration it was determined by those present that a quarterly magazine of general ornithology should be established, that a limited subscription should be entered into to provide a fund for that purpose, and that the subscribers should form an Ornithological Union, their number at present not to exceed twenty."

The original list contained the names of the then leading ornithologists of Great Britain, such as Professor Alfred Newton, Dr. Sclater, Canon Tristram, Messrs. Godman, Salvin, and others, while before long foreign ornithologists of distinction became honorary members, among whom may be cited Cabanis, Hartlaub, Reinwardt, Von Pelzen, &c. In addition to these latter, others such as Dr. Finsch and Signor Salvadori contributed articles to the journal.

In addition, however, to the valuable articles contributed by such men as I have quoted, there was a second factor which led to the success of *The Ibis*, and that was the character of its illustrations, which thoroughly established its popularity and has always caused the quarterly issue to be eagerly looked for. The greatest artist of that time, and who has never since been excelled—I mean J. Wolf—drew for the journal till the latter end of 1869, when failing eyesight compelled him to cease his labours. His place was then taken by Keulemans, the celebrated Dutch artist, who has illustrated nearly all the leading British works, and has continued up to the present time on the staff of *The Ibis*. During all these years the perfect drawing and admirable colouring of his illustrations has placed *The Ibis* in the foremost rank of illustrated journals.

We cannot hope to extend our sphere of observation throughout the same geographical areas as the contributors to *The Ibis* have done; for the pages of this periodical have dealt with the birds of the Old World from Australia and New Zealand to the "tundras" of Siberia, and of the New from the plains of Patagonia to Canada. So far, however, as our sphere of work (about which more anon) may extend we can imitate in *The Emu* much of what has been done in *The Ibis*. Nothing has contributed more help to our knowledge of the "geographical distribution" of birds, one of the most interesting subjects in connection with the study of ornithology, than the invaluable "lists" of birds from special localities, combined with notes on their economy, which have been for so many years a feature of the pages of the journal in question. These lists, so often containing descriptions and illustrations of new species

discovered by either the writers or the energetic collectors employed by them, have been of the utmost value to avifaunistic workers.

There is so much to be learnt about the geographical distribution of the birds of our great Island Continent that it is to be hoped the pages of *The Emu* may be enhanced from time to time with lists of birds, not only from the little-known regions of the area in question, but from the already well-worked districts of the various States, the time of the year that the observations are made being always an important factor in determining the movements of species.

The foregoing remarks in connection with *The Ibis* have been made in order to recommend a basis for our own work, and have naturally led to the consideration of what *The Emu* should be. I don't think that we shall be wrong in maintaining that no efforts should be spared by those who are undertaking the editorship of our journal to make it a worthy contemporary of *The Ibis*, and that it should be conducted, with the means at our disposal, on as close lines as possible with it. We may not be able to command the artistic talent that is connected with the parent journal, but no effort should be spared to make the illustrations as good as possible, as it is certain that they will go as much towards popularizing the journal as the subject matter of its pages. Resource will, no doubt, be had to photography, as it has been seen how excellently this class of illustration has served the purpose in Mr. A. J. Campbell's recently published work. But, in addition, hand-coloured or chromo-lithographs from drawings by good artists should be introduced as much as our means will allow; and I see no reason why specimens should not from time to time be sent home to Keulemans, who would, no doubt, forward to us the completed plates, the articles dealing with them, meanwhile, being held over till their arrival.

A most important point as regards the work of the Australasian Ornithologists' Union will be the extension of the sphere of our observation over as wide an area beyond the purely Australian "region" as possible.

The greater the geographical area dealt with in our journal the more will its perusal commend itself to foreign readers, and at the same time an extension of our biological knowledge will result from this policy. The "region" thus set apart for our investigation should, I think, include the more adjacent islands of the Malay Archipelago, including New Guinea and the large groups of islands to the north-east associated with it, extending thence south to New Caledonia and eastwards to Fiji, and finally finishing off with that interesting ornithological "district" New Zealand. The study of Australian ornithology must of necessity be incomplete without the inclusion of the Malayan and Oceanic "regions" above enumerated, in which so many interesting allied genera and species occur, and, on the other hand, the

exclusion of one of the richest ornithological areas in the world would, I take it, be unworthy of such an influential brotherhood as I trust the Australasian Ornithologists' Union will ere long find itself to be.

The treasures of parts of this region have been made known to the world by Gould, Salvadori, Finsch, Buller, Tristram, Layard, and others, but much of it is as yet untouched, and will provide generations of work, more especially in those parts which are inhospitable, such as the Admiralty and Solomon Islands.

The entire area is in touch, as far as trade is concerned, with Australia, and offers a magnificent field for the labours of energetic and adventurous collectors. In addition, however, to these comparatively new fields, there are those which have been fairly well worked, such as Fiji, New Caledonia, and other islands, in which much has still to be investigated; also disputed points to be settled (one of which, the alleged breeding there of the Golden Plover, by Layard, occurs to me at the moment), while the habits and natural history, particularly the nidification of rare and little known species, remain to be studied.

Before touching on the work to be done, generally, or in any one particular "region" of Australia, it will be right here to shortly review the labours of the ornithologists and naturalists who have led to the extensive, and I may say intimate, knowledge of the vast number of species which the island-continent possesses.

First on the list of our workers, and now long since passed away, is one who has immortalized himself—John Gould. Prior to his arrival on the scene, the labours of naturalists may roughly be said to have been confined to the work done during the voyages of the early navigators—Flinders, Phillip, King, and Cook—when collections were made by Sir Joseph Banks, Brown, and Caley. Sundry species were described and figured by Shaw and Lewin (the latter in the "Birds of New Holland"), also by Cuvier, Latham, and Vieillot; whilst Messrs. Vigors and Horsfield left an unfinished memoir of the birds of Australia then in the Linnean collection.

The south-eastern portions of the continent, with Tasmania, however, were the only parts of Australia which may be said to have been properly worked, as the most of the remaining parts of the continent were practically unknown.

In coming out to Australia, the object which Gould had in view, with the help of his assistants, was the exploring of its hitherto untouched tracts and the personal study of the habits of the species collected. This done, the results of his labours were to be given to the world in a work, the second of the magnificent series of folio editions commenced with "The Birds of Europe." He left England in the latter part of 1838, and forthwith commenced his great task, working incessantly in the

southern parts of Australia, including Tasmania and its islands, for two years. The outcome of his labour of love, in which he was so ably assisted by the intrepid and unfortunate Gilbert, has long since been known to the world and to you all in the shape of the aforementioned great work, "The Birds of Australia." The amount of work done by himself and his assistant Gilbert during the three years and more which compassed their combined labours was extraordinary when we consider the difficulties which beset travellers in the interior at that period. The material assistance, however, which he received from the Governors of the various Australian provinces furthered his efforts very much, and enabled him to accomplish all that he did in the short space of his two years' personal collecting.

As before said, his work was mainly confined to the south, although he penetrated a long distance into the interior of New South Wales. The exploration of the west, north-west, and north of the continent he deputed to his able assistant, Gilbert, which occupied him a similar time—two years. After rejoining Gould in 1841 he was again sent out by his employer, and started work in Western Australia. He then made his way to Sydney, where he joined Leichhardt in his ill-fated journey to Port Essington, and doubtless had he been permitted to accomplish this, the ultimate results of his journey across that inhospitable region would have been very valuable.

Among those travellers and collectors who assisted Gould by notes and information concerning species, chiefly in the far north and west, must be mentioned Captain Sturt and Messrs. Elsey, Drummond, Gregory, Bynoe, and Strange, the latter meeting with a similar fate to Gilbert during the Leichhardt expedition.

The amount of work done by Gould can best be judged by the fact that at the time of the publication of his book he increased the number of Australian species from 300 to 600, which was further augmented to 672 at the date of the issue of his "Handbook." The characteristic energy and perseverance which enabled Gould to complete his immense work fired him throughout life, and resulted in the publication of his subsequent splendid books—"The Humming Birds" and other monographs, "Birds of Asia," and "Birds of New Guinea." Up to the very last, though a confirmed invalid, he continued to work, for I remember seeing him, shortly before his death, lying on his sofa executing rough drawings in crayon for his artist, engaged on "The Birds of New Guinea."

Prior to the publication of Gould's "Handbook," in 1865, Dr. Ramsay, the Curator of the Sydney Museum (which institution has been for many years the focus of Australian ornithological research), commenced work in the north-east of Australia, and extended his explorations, as years went on, to the north and north-west. With the assistance of Mr. Masters, of the Sydney Museum, he largely increased the collections in that

institution, describing a number of new species, and finally publishing his well-known "Tabular List" in 1888, in which he increased the number of our species to 760. This publication has been of great value to all who are interested in the distribution of Australian birds, and will always rank as one of the most useful of ornithological efforts in our Commonwealth. In addition, Dr. Ramsay's numerous papers and communications to the "Proceedings of the Linnean Society of New South Wales" and other journals have formed a channel of added information to the knowledge of Australian birds. Following in the footsteps of Dr. Ramsay, Mr. A. J. North, who was then assistant in the Sydney Museum, compiled, in 1886, his compendious catalogue of the "Nests and Eggs of Birds Breeding in Australia and Tasmania," admirably illustrated by twenty-one coloured plates of eggs. Since then Mr. North has continued to work zealously in the good cause, and, having control of the splendid collection in Sydney, is in a position to elucidate many interesting points as regards geographical distribution and the economy of the species constantly coming to hand from his collectors. Mention must not be overlooked of the labours of of Mr. C. de Vis, Curator of the Brisbane Museum, who is a worthy coadjutor of the naturalists already alluded to.

Much information, too, on the habits and economy of our birds was for many years imparted in various writings to the world by that keen observer and charming writer, Mr. K. H. Bennett, whose "Notes on the Habits of Birds Breeding in the Interior of New South Wales" is a valuable contribution to the ornithological literature of Australia.

Coming now to members of our own "brotherhood," allusion cannot be omitted to the good work done in his widely extended collecting tours and trips in the far north by our energetic member, Mr. D. Le Souëf, and which has been accompanied by many interesting communications to *The Ibis*.

Mr. Robert Hall is also making his mark in the ornithological literature of the country, his recent volume on "Insectivorous Birds" being calculated to do much good. I have lastly to mention, though not least in rank by any means, Mr. A. J. Campbell, whose years of open-air study of our birds, and untiring observation of their breeding habits, has eventuated in one of the most valuable contributions to oological science that has been published. Our knowledge of the nidification of the Australian ornis has been most materially increased by the acquisition of Mr. Campbell's exhaustive and beautifully illustrated volume. Nothing can exceed the beauty of the photographs, which tend to bring before the student the breeding haunts and nesting habits of our species in the most instructive manner possible. Among recent publications, allusion may finally be made to the "List of Vernacular Names for Australian Birds," compiled after much study and thought chiefly by Mr.

Campbell and myself, with the object of giving all our species English names, as in other countries where our language is spoken.

Reference to the work done by ornithologists in the Southern Hemisphere would be incomplete without notice of the valuable labours as regards New Zealand avifauna of Sir W. Buller, who published his valuable quarto work, illustrated by Keulemans, in 1878, and further extended our knowledge of the birds of that country by the issue, in 1887, of his splendid second edition, in two vols.

We have now to turn to the subject of the field of investigation, labour, and research which is open to the members of the Union. The vast region comprised in Australia and the contiguous sub-regions which have been brought to your notice in the foregoing remarks, offers an almost boundless treasury of ornithological knowledge. It may be said that, in spite of the work done by the numerous writers and naturalists aforementioned, the ornithology of Australia in some directions has only been cursorily dealt with, for the territory is a vast one, and the observers, proportionately to its area, have as yet been few. We must therefore look forward to much new work being done by our Union. Speaking generally, we all admit, I think, that the study of the natural history of birds is one of never-failing interest. They are the most interesting of all the great "classes" or divisions of creation. The beauty of their plumage; their attractive mode of life and habits; their nidification, so fascinating to the oologist; their mysterious instinct of migration, only vaguely understood—all these tend to make the study of this great Class a most captivating one. And here, in Australia future close observation and inquiry cannot fail to bring to light many new points of interest in connection with our lesser-known species.

To allude first to one great Order which I know is a favourite with many of our members—I refer to the Limicolæ—there exists in it alone, without going further, a wide field for research. The position of our continent, lying immediately to the south of the vast Asiatic breeding haunts of the Waders, affords these birds a very extensive region for winter migration, beyond which the vast Southern Ocean stops their flight. Consequently typical Asiatic species travel down to us in fair numbers, some reaching farther south than others. At the same time we have as winter* visitants in our summer season not a few of those interesting globe-wanderers which, for lovers of this "order," always have a peculiar fascination. These are the Turnstone, the Common Sandpiper (*Tringoides hypoleucos*); the Grey Plover, Knot, Sanderling, and the Curlew Stint. Further, we are visited, by way of Oceania, by those interesting American species *Heteractitis incanus* and *Bartramia longicauda*. In connection with

* Used in connection with the breeding season of the species.

all these migrants further attention should be given to their varying times of arrival on our shores, and their subsequent distribution or wandering throughout the various States; and records of their occurrence in New Zealand, where some have not as yet been met with, will be highly interesting. Again, the internal distribution and migration of our purely Australian Limicolæ is a point which demands our notice and study. Chief among these is our Dottrel, and next to it, as regards northern limits, the Double-banded Dottrel.

Very interesting work in connection with the Waders will continue to be done, we may depend, along the vast stretch of coast line from about Dirk Hartog Island to Cambridge Gulf, in a portion of which Mr. T. Carter has already made many interesting discoveries. This north-western littoral region of our continent is a paradise for the observer of Waders: for it is here that so many species first make land, or push onward to after alighting on the north coast. Apparently it is here, too, where the immature of several well-known species manifest the singular propensity already alluded to in my "Birds of Ceylon"* of foregoing their return journey to northern climes and remaining with us throughout the year.

Species which will occur under these conditions, and which have already been recorded from the district in question, will be the Turnstone, the Sanderling, Eastern Stint, Curlew Stint, and the Golden Plover. This habit forms another problem for solution in connection with the migratory instinct, about which we know so little.

Turning now to the sea birds, I recommend for investigation and discovery, as regards their distribution and breeding, certain of our Terns, such as *Gygis candida*, *Procelsterna cinerea*, *Sterna melanauchen*, *S. media*, and the Ternlets *S. nereis* and *S. placens*, which have mostly a northern distribution as far as Australia is concerned. It is worthy of passing remark that members of this family and the allied Skuas (*Stercorariidæ*) are apt to be overlooked somewhat strangely, one instance as regards our waters being Richardson's Skua. This was the first bird I noticed in Port Phillip Harbour when I arrived in 1883, and also at the same time in the Derwent, to which it is an annual visitor after Christmas.

Again, the Tubinares, so well represented in Australian seas, will no doubt furnish material for many interesting notices and articles in *The Emu*. Of the several species of Petrel whose eggs and breeding habits are still undiscovered, some no doubt will be found to nest within the limits of the Australasian region or contiguous to it, for it is not unlikely that Kerguelen Island, which has already rendered to science many oological discoveries, may be the breeding place of the Black-bellied Storm Petrel, while on the north-eastern islets of the

* *Tringa subarquata*, p. 879.

continent we may not unreasonably expect that the eggs of the White-bellied species may be found.

Though much work remains to be done in connection with the feathered denizens of our coasts and seas, the vast territory comprised in our Commonwealth offers us a still grander field of labour. Difficulties in connection with climate and exploration have combined to make vast districts as yet almost inaccessible except to the intrepid and determined explorer; but whenever they have been penetrated, and the expedition accompanied by a collector, I think I am right in saying that they have nearly always rendered ornithological novelties, some of which, it may be remarked, have fallen to the share of our member, Mr. Keartland. I include in this category the Northern Territory, the extensive sub-littoral region round the Gulf of Carpentaria, York Peninsula, the north central region and north-west, lying at the head and along the courses of the Victoria and Fitzroy Rivers, and the ranges of the great interior, south and west of Lake Amadeus. All of these tracts have yet to yield further undescribed species, possibly, of new desert-loving forms or hitherto undiscovered members of the *Psittacidae*.

The *Psittacidae* are, with the exception perhaps of the Honey-eaters, the most typical of Australian families, and a more intimate knowledge of the economy of the rarer species from the interior and northern parts of the continent, together with the discovery of their nests and eggs, is very desirable. In what better way could this be afforded us than by the publication of a monograph, with coloured plates, of every species of this beautiful group? For the purpose of such a work exhaustive information must be got together, and access afforded to the best collections we have. An opportunity is thus within the reach of one of our New South Wales members to give to the world the result of a few years' hard work and devotion to the life-history of the Parrots. We might hope also to see the *Meliphagidae* (Honey-eaters) treated in like manner. The members of this interesting family, so strongly represented in Australia, invite more attention by reason of their active and sprightly manners, and their lively notes, so typical of the vast Australian forests and "brushes," than the Parrots. The Honey-eaters, too, do not fall far behind the Parrots in the attractiveness of their plumage, which, though not so gaudy as the dress of the latter, is perhaps more striking, owing to the rich and handsome contrasts in their colouration. Details still wanting in connection with this family are descriptions of the nests and eggs of not a few species of northern habitat, whose nidification is not yet known to us.

Special interest, likewise, attaches to the *Meliphagidae* on account of their near relationship to the beautiful family of the Sun Birds, which they may be said to represent in Australia, and to which the handsome genera *Myzomela* and *Acanthorhynchus* connect them. The genus *Myzomela*, distributed over

the Austro-Malayan region, forms a connecting link between the two families, and has a foothold in Australia through the five species found in the north of the continent.

Certain characteristic and well-represented groups, the members of which are more or less numerous, should now be alluded to as representing many points of interest to workers in Australia, some of their genera containing species about which much has still to be learnt :—

1. The *Muscicapidæ* (Fly-catchers), fairly well represented by the Asiatic and Oceanic genera *Rhipidura* and *Myiagra* respectively, and containing slightly aberrant groups—viz., the Robin-Chats (*Peiræca*), which are the strictly Australian representatives of the European “Chats,” and the Wren-Warblers or “Chat-Wrens,” as they might well be called, represented by the beautiful genus *Malurus*. Both of these genera are typical of the Australian open lands and sparsely timbered districts, and attract universal notice on account of their lively habits and showy plumage. Associated with the Fly-catchers are the several species of that peculiar Australian and Oceanic genus *Gerygone*, and which have been named Fly-eaters in the recently compiled vernacular list, owing to the peculiar mode of feeding which these tiny arboreal birds possess.

2. The beautiful Finches, with their representative genera *Estrilda* and *Poephila*.

3. The Tree-creepers (*Certhiidæ*), represented here by the genera *Climacteris* and *Sittella*, both of which are highly interesting as being the Austro-Malayan and Australian prototypes of the old world “Creepers” and “Nuthatches” respectively.

4. The members of that unwieldy family the *Timeliidæ*, and represented with us in part by the Tits (*Acanthiza*) and the allied Scrub-Wrens (*Sericornis*), denizens of our thick scrubs and forests; the Babblers (*Pomatorhinus*), a pleasing link between Australia and India; and the genus *Ephthianura*, the species of which are true “Chats” in mode of life, deportment, and nidification.

5. The Australian representatives of the important family *Laniidæ*—namely, the Crow-Shrikes (*Gymnorhina*), the “Butcher Birds” (*Cracticus*), and the numerously represented “Thick-heads” (*Pachycephala*), all of which are well-known birds, but of such interesting habits that they present a never-tiring topic for study.

Sundry other groups might be mentioned, but it will suffice to have enumerated the above, and allusion need only now be made to several remarkable genera which add no little interest to ornithology in Australia. Those typical and well-known forms, discovered before the days of Gould, and which we may style our characteristic Australian birds—such as the Emu, Lyre Bird, Brush Turkey, Mallee Hen, Bower Bird, and, one might almost say, the Laughing Jackass—will always hold our

interest and attention, and further details of their life-history will be welcome. There is no doubt but little in the way of new material to be brought to light in connection with these birds, except, perhaps, in the case of the Northern Bower Birds, the eggs of one of which, the Tooth-billed, are still undescribed. There are two genera, however, *Ptilotis* and *Podargus*, almost purely Australian, regarding which much useful information may still be afforded, such as descriptions of their nestling and immature plumages, which, if I mistake not, have yet to be made known. The Rifle Birds and so-called Podargi are of special interest, the first being the Australian representative of the Birds of Paradise of New Guinea, and the second the prototype of the little-known Malayan "Frogmouths" (*Batrachostomus*).

Finally, it is right to mention certain genera in the aforementioned widely extended group of the *Timeliidæ*, which, though not being remarkable as regards plumage, are birds of interesting and obscure habits, being denizens of lonely forests and dense scrubs—such as *Orthonyx*, *Psophodes*, and *Hylacola*. Their economy is all the more interesting owing to their sylvan retirement and habits of shyness and timidity.

From my own experience in tropical jungles I know that it is long before a full knowledge of the natural history of forest-loving birds can be acquired, and doubtless there is much yet to be learnt concerning the species now alluded to. For example, the Log-runners (*Orthonyx*) and Ground-Wrens (*Hylacola*) are birds of peculiar interest, and it is to be hoped further research will bring new facts to light concerning them.

It is finally desirable to mention, in concluding this all too imperfect reference to the families and genera of interest among the great concourse of Australian birds, that the nidification of a few of our well-known species, such as the two Barn Owls and the Night Parrot (*G. occidentalis*) is still unknown, and that members of our union should endeavour to supply the hiatus which exists in their natural history.

It only now remains for me as president of our Union to wish success to all your efforts, and to express the hope that many valuable discoveries in the directions which I have indicated, and in others perhaps overlooked in this address, may, through the medium of our journal, largely add to the general knowledge of Australian ornithology. Above all, let us try to raise our journal above a provincial standard, and devote its pages as much as possible to matter which will supply desired information to naturalists and workers abroad who are interested in the ornithology of our great country. We may, I think, rest assured that if we content ourselves with the publication of matter of merely local interest in our journal, our Union will not take the place it should in the ranks of the world's scientific bodies. It will be for us to

secure membership and correspondents from all parts of the Commonwealth, and from the whole region which I have brought under your notice. It is sincerely to be hoped that our brethren in New Zealand will extend the hand of fellowship to us, and resort to the pages of *The Emu* to impart to us information from time to time on the ornithology of that remarkable country. Personally my own ambition is that *The Emu* should specially prove itself to be the standard medium of information to the world at large on the ornithology of Australia. To this end let naturalists from all our States join the ranks of the Australasian Ornithologists' Union and make its journal worthy of the new nation, which has such a grand future before it.

The president's address having been read, Sir Samuel Way proposed that the thanks of the Union be conveyed to Col. Legge for his very able and instructive address. Seconded by Mr. Edwin Ashley, and carried.

SECOND DAY.

On Saturday, 2nd November, members were taken in a drag to Happy Valley Reservoir, in the vicinity of which, in company with their hosts—the party, including ladies, numbering 23—they spent some hours pleasantly. Some interesting birds were noted, among them being the Boobook Owl, Yellow-rumped Pardalote, Bee-Eater, Swallow Dicaeum, Warty-faced Honey-eater, Bronzewing Pigeon, &c., while on the reservoir a Musk Duck and a number of Coots were seen.

At the evening meeting on Saturday, at the Royal Society's Hall, Mr. Symonds Clark took the chair, in the absence of the vice-president.

It was proposed by Mr. E. Ashley, and seconded by Sir Samuel Way—"That the next session of the Union be held in Melbourne." Carried unanimously.

Mr. Zietz having taken the chair, the secretary read a paper by Mr. W. M'Ilwraith, Rockhampton, on "Corresponding and Observatory Stations," in which the author advocated the appointment of corresponding members and the establishment of observatory stations in different parts of the Australian continent.

Sir Samuel Way suggested that the Council of the Union should take steps to carry out Mr. M'Ilwraith's suggestions, and moved—"That it be an instruction to the Council to endeavour to arrange for correspondents in the manner suggested by the paper." Circulars might be distributed amongst the members in the various States, and it would thus be possible to ascertain what members, like Mr. M'Ilwraith, were willing to become corresponding members, and in that way a beginning could be made.

Messrs. A. J. Campbell and E. Ashley having spoken in support of the motion, it was seconded by Mr. H. Kendall, and carried.

The Secretary said he would have circulars printed and sent to members who were likely to establish observatories, especially to those living on the coast line, because Australians knew practically nothing concerning the migrations of birds in this part of the world, a subject on which the Union desired information.

Mr. D. Le Souëf then read a paper on "Protective Coloration of Australian Birds and their Nests," in which he pointed out that the various species of birds nested in environments which more or less harmonized with their colour, and constructed their nests so as to be in harmony with their surroundings and secure the necessary protection. The admirable lantern views of the lecturer's photographs were exhibited by Mr. R. B. Adamson.

The Vice-President having thanked Mr. Le Souëf for his very interesting paper,

Sir Samuel Way said the visit of their Victorian friends had given them great pleasure, and they had spent a most profitable time listening to their interesting remarks on bird life. They had paid South Australia a great compliment by holding the inaugural meetings in Adelaide. The foundation of the Union had been laid in Victoria, where so many distinguished ornithologists lived. They had made Adelaide the theatre of what bade fair to be a useful and influential society. Not being a scientific man, he expressed the hope that the lectures and illustrations which had been given by Mr. Le Souëf might still be further popularized. It was a great advantage to have Mr. Campbell's valuable volume upon their shelves for reference and study, and it would be a good thing if Mr. Le Souëf, who had travelled so extensively, would give them the result of his investigations. It would be an enormous advantage if in country institutes and schools lectures of that character could be given, illustrated with lantern views throughout. If that were done there would be less occasion to credit young Australia with being anxious to destroy bird life; rather the children would learn to appreciate the beauty and usefulness of birds. He hoped that at the next session of the society in Victoria South Australia would be as well represented as was the sister State at the inaugural gatherings in Adelaide. There would probably be meetings in Brisbane, Sydney, Hobart, and New Zealand, because the operations of the society were not confined to the Commonwealth, but extended all over the southern hemisphere. He hoped that when the next session of the Union was held in Adelaide they would find their visiting ornithologists a complete theatre at the University, which he was sure would be at the service of the society. He hoped for a long succession of years they would have the pleasure of welcoming their visiting specialists or experts, and that the membership of the Union would grow.

Mr. D. Le Souëf, having returned thanks on behalf of the visiting delegates, hoped that the meetings which had

been held would result in the promotion of the objects of the Union.

THIRD DAY.

On Monday morning, 4th November, the visiting members went, by invitation, to the Museum to inspect the unique fossil bones of extinct mammals, &c.—many from the lacustrine deposits of the interior of the State.

In the afternoon members of the Union went to the Zoological and the Botanic Gardens. At the former Mr. A. C. Minchin was congratulated upon the fact that a number of native birds had bred while in his charge, amongst them the Pacific Gull (*Larus pacificus*) and the little Plumed Pigeon (*Lophophaps leucogaster*). The party were entertained at afternoon tea by Mr. and Mrs. Minchin, to whom a hearty vote of thanks was given. In the Botanic Gardens the party, under the guidance of Mr. M. Holtze, noted the various birds who find a safe and congenial resting-place in this reserve, and also the many points of interest in connection with the place.

The proceedings of the session were closed by an "at home," given by Mr. J. W. Mellor, at the residence of his father, "Holmfirth," Fulham, where already the visiting members had spent some time most pleasantly and had been most hospitably entertained. Amongst others present at the "at home" were Mr. A. Zietz, C.M.Z.S., Dr. A. Morgan, Mr. C. Winnecke, F.R.G.S., and Mr. Symonds Clark. After a most enjoyable evening, in returning thanks to the host, Mr. A. J. Campbell, on behalf of the company, congratulated Mr. Mellor on having collected and properly classified the coveted number of 500 species of Australian birds' eggs, and also that the collection included such an absolutely unique specimen as the egg of the extinct Tasmanian Emu.

EN ROUTE FOR HOME.

At the invitation of Dr. Thos. F. Ryan, a member of the Union, three of the Melbourne visitors—Messrs. D. Le Souëf, A. J. Campbell, and A. G. Campbell—broke their return journey at Nhill, the centre of the great Mallee district of Victoria, to enjoy a day amongst the Mallee birds.

The ornithologists were up before six o'clock. Numerous feathered friends were soon found to the northward of the town. Black-breasted Song Larks were singing over the crops; others were perched on fences, their tails upward, wren-like, and making good subjects for binocular observation. Reaching the edge of the Mallee, a mile or two out, the place was literally filled with bird music, notably the extraordinary gulping-like notes of Wattle Birds, gurgling voices of Spiny-cheeked Honey-eaters, whining cries of Choughs (*Corcorax*), melodious flute-like tones of Butcher Birds, merry calls of Singing, Yellow-plumed, and the more familiar White-plumed Honey-eaters. Beautiful

Blue-bellied, Musk, and Little Lorikeets were screeching while ravishing the blossom-laden branches of certain Mallee trees, some of the birds feeding so low that they might have easily been felled with a short stick. Other small birds were present, such as Chestnut-rumped Tits (*Acanthiza*), Red-capped Robin, a nest of which was found empty, but the young ones were sitting close by. Passing through a patch of acacia scrub, where the scarce Scrub Robin has been known to dwell—a nest having been found the season before last—the ornithologists broke on to a long sandy rise covered with low bushes, white as if enveloped with snow, and shining in the morning sun. The bushes (*Leptospermum*) were arrayed from top to bottom in a mass of flowers, perfumed like wild honey, and attracting insects humming in hundreds, and of course various birds. Here were heard the quaint notes of the wild Fulvous-fronted and the rarer White-fronted Honey-eaters, which are usually partial to such heath-like tracts, while near the ground were heard the lively trilling songs of a Malurus or Wren. Although difficult to get a sight of, a male was soon bagged, and proved to be the newly named Purple-backed Wren (*M. assimilis*)—the intermediate species between *M. lamberti* on the east coast, and the *M. pulcherrimus* in the south-west—the species which led to an interesting discussion at the gathering of ornithologists only two evenings previously at Mr. Mellor's. A female of the species was also secured for museum purposes.

After breakfast the visitors found that Dr. Ryan had thoughtfully provided a buggy and pair of horses to send the visitors further afield into more virgin Mallee. Proceeding northward along the Netherby road, the party halted occasionally to explore the wayside scrub, where Chestnut-backed Ground Birds (Thrushes) and Ground Wrens (apparently *Hylacola cauta*) were disturbed, and where a solitary Mallee Hen was flushed. Two or three Wedge-tailed Eagles were seen circling on high, and on returning home one was observed near the road perched on a low tree. At about ten miles from Nhill the party turned to the left, and made for a clump of tall timber in a hollow near a farm-house, and halted, this time for luncheon. With the usual bush hospitality the farmer invited the party to stable horses, while the good "missus" boiled the billy; then, selecting a grassy glade 'neath a spreading gum, the ornithologists discussed, to their hearts' content, "billy" tea as well as the contents of a hamper which Miss Ryan had kindly provided. Amid such romantic surroundings it was indeed a delightful "spell."

At 2 o'clock a start was made to explore the scrub. Leaving all behind except guns and collecting bags, the party beat the scrub in a northerly direction, at 4 o'clock making a right-about turn, and, after having traversed about ten miles, returning to within a quarter of a mile of its starting-place shortly after

6 o'clock. Many things interesting were noted during the four hours' journey. The scrub itself was beautiful, having evidently been refreshed by recent rains. The Mallee (eucalypt) leaves wore a bright golden-green hue, relieved here and there with crowns of yellowish flowers. Occasionally patches of tea-tree (*M. wilsoni*), with stems and branchlets ablaze with lovely lilac blooms, were come across, not to mention a hakea with cream-coloured flowers, a grevillea in scarlet, and other plants.

The principal birds noted were the beautiful Purple-backed Malurus that was seen in the morning; two Pardalotes—*P. ornatus* and *P. xanthopygius*; the White-eared Honey-eater, and the rare Wattle-cheeked Honey-eater (*Ptilotis cratitia*). A nest of the latter, containing a pair of eggs—an oological prize—was discovered in a hakea bush, from which the female was flushed. A Bell Bird's (*Oreoica*) nest, with eggs, was also observed, likewise other Mallee denizens, such as the Red-throated (Gilbert's) Thickhead, Red-rumped Tit (*Acanthiza pyrrhopygia*), besides several families of White-browed Babbblers, which made curious chattering calls as they darted off through the bushes. In the densest portion of the scrub a Mallee Fowl's egg-mound was discovered. An examination proved it had not been used by the birds since last season. It was a fair-sized mound.

A practical suggestion arose out of this hurried but interesting scrub outing. Could not a combined party of ornithologists from Melbourne and Adelaide meet for a week's camp-out to investigate the birds of this peculiar district? Nhill being about half-way between the two termini, and where the express trains cross each other, a meeting might easily be arranged. The Mallee is indeed a peculiar district. Why are several of its species adorned with conspicuous rich red or chestnut-coloured upper tail coverts?—to wit, *Cinclosoma castanonotum* (Ground Bird), *Drymaedus brunneopygius* (Scrub Robin), *Hylacola cauta* (Ground Wren), and *Acanthiza pyrrhopygia* (Red-rumped Tit).

After a most pleasant drive in the gloaming, during which a Bronzewing Pigeon was flushed from the wayside, and a single Freckled Duck was observed on the water of a crabhole pool, the party arrived at Nhill about 8 o'clock.

Dr. Ryan, knowing that a social meeting—the presentation of the tennis championship trophies—was to take place in the town that evening, arranged that it should also hear Mr. D. Le Souëf's popular lecture on Australian birds. The additional attraction packed the meeting, and by the aid of an optical lantern, kindly loaned and manipulated by the Rev. A. Perkins, a capital evening was spent, as attested by the fact that the audience did not break up till 11 o'clock. Two and a half hours later the visiting ornithologists were in the express whirling home to Melbourne. This wayside excursion most pleasantly ended the inaugural gatherings of the Australasian Ornithologists' Union.

Porphyrio melanonotus in New Zealand.

BY J. C. M'LEAN, GISBORNE, N.Z.

THE land birds which are common to New Zealand and the Australian continent are few in number; and, although we in New Zealand receive occasional stragglers of some Australian species, they do not appear to obtain a footing.

Perhaps *Zosterops corulegens* is the only bird which has made a home for itself after straying from the continent; but here a doubt exists as to whether this species was not at all times a resident—migrating from the South Island to the North,* and after one or two years becoming a resident of our northern island, where to-day it is one of our commonest birds.

One of our best-known representatives of the Australian avifauna is the Swamp Hen or Bald-Coot (Pukeko and Pakura of the Maories), *Porphyrio melanonotus*.

This handsome Rail is evenly distributed throughout the colony, wherever the country is suitable. Its strongholds are the dense raupo swamps, but occasional pairs may be found along the banks of creeks and rivers where sufficient cover exists. Owing to the reclamation of marshy land and the clearing of fern and scrub its numbers have decreased considerably of late years.

In July, 1888, a party of three guns, in Hawke's Bay, bagged 62 Pukekos in a day's walking up swampy gullies running off a large swamp and lake, and I suppose not more than 60 per cent. of the birds shot were picked up. To-day probably not half a dozen birds can be seen in that locality.

Our New Zealand observers remark the appearance of the bird in localities where formerly it was unknown. This, I think, is accounted for by the fact that land in the vicinity, suitable to the Swamp Hen, has been cleared and drained, and the Pukeko has sought fresh fields and pastures new.

In 1888 the bird was quite a rarity in this part, but in 1893 it appeared more numerous, and seemed to increase up to 1898, when it again went back in numbers, and few can now be seen. Birds were noted flying and calling at night (as if migrating) during the years 1893, 1894, 1895, and 1896; but for the past three years none have been heard. Our Government have, with other birds, protected the Pukeko for this season and each succeeding fourth season, but I am afraid some other force than the gun is responsible for the decrease.

As a table bird the Pukeko is excellent; but as a game bird affords poor shooting, as the flight is laboured and slow, and it is hard to flush. If not mortally wounded, it is practically impossible to retrieve. This bird would sooner trust to its legs than to its wings for safety, and many a sheep-dog becomes proficient in the art of catching the bird. Starting a Swamp

* See Buller, "Birds of New Zealand," 2nd edition, p. 77.

PLATE III.



Near Totangi River, N.Z.

Nest of Bald-Coot (*Porphyrio melanonotus*).

FROM A PHOTO. BY J. C. M'LEAN.

Hen from a patch of marshy land, he follows, and probably marks the bird down in some adjacent scrub. Following quickly, the dog is on the bird, which, trusting to its length of leg, finds itself no match for the dog, and falls a victim. The Pukeko is hated by sportsmen on account of its running powers. Often one's setter draws away on a strong scent up some steep, rough face. Hope runs high in the expectation of a good cock Pheasant at the finish. However, the sportsman is disgusted, after a hundred yards' climb, by seeing our blue-coated friend sailing back to whence he came.

The young must be taken early if it is intended to tame them. Mr. Guy Chambers had a pair which appeared quite domesticated, and followed him about the place; still, when the breeding season came round they became restless, and finally went astray. I have often watched these birds using the claws of one foot when feeding by holding the food up off the ground and breaking it off in pieces with the beak.

The food consists of the young shoots and roots of various swamp plants; it is rather destructive to young corn and vegetables planted near its haunts. It also feeds on the freshwater mussels (called pipi by the Maories), but whether it dives for these or simply obtains them by wading in shallow water I am unable to say. I once saw a bird obtaining them from the edge of a shallow stream by simply probing the edge. In the autumn it may be observed far up the hillsides among the grass in quest of crickets and grasshoppers, but it only ventures out in such exposed positions at dawn or dusk. A Pukeko was, on one occasion, surprised feeding on the fallen berries of the white pine at the edge of the bush.

The Swamp Hen swims well, but does not readily take to water, although the young do, and are expert divers.

Albino and partial-albino varieties are occasionally met in the colony, and in July, 1888, I observed one with a good deal of white on the primaries; this was very marked when the bird was flying.

Dr. Sharpe has described (Cat. B., xxiii., p. 202) the Swamp Hen from the Chatham Islands as *P. Chathamensis*,* but appears to have only compared it with *P. bellus*. The female of *P. melanonotus* is smaller than the male and of duller plumage, and, so far as I can see, the female does the larger share of incubating the eggs—if not all.

The breeding habits do not appear to differ in New Zealand from those of the Australian birds. As a rule the nest may be found in a swampy situation, either on a tussock or among raupo; usually some water surrounds the site. I have, however, found the nest some distance from water.

On 24th December, 1899, I took, or rather observed—it was taken with a camera later on—the nest of a pair of *P. melanonotus*

* *Ibis*, 1893, p. 531.

near the Totangi River. It was placed in an isolated rough tussock fully 200 yards from the river on a clear grassed flat. Now, these birds would never have bred in such a position had not their previous haunts been interfered with. In the following December (1900) I took another nest containing five eggs, in a position almost similar, but further up the river. The nest of 1899 contained two eggs and a newly-hatched young. One peculiar thing noticed was the number of broken pipi shells lying around this nest. The sitting bird had evidently been fed by its mate, and these mussels had been carried 200 yards from the river. There were no shells about the 1900 nest, but then the eggs were very slightly incubated. I have also observed the nest in a crop of Cape barley fully half a mile from water.

As to the nest of the Swamp Hen, I have never noticed any green stuff used as lining—always dry grass or raupo. One peculiar point noticed in the greater number of nests observed is that the cavity is somewhat oval, with a run or stepway to one end of the oval. They are never built very high from the ground, and measure about 12 inches by 9 inches for the cavity, and from 1.5 inches to 2 inches in depth.

The usual breeding months are September, October, November, and December, but I have caught young as late as May.

Mr. A. J. Campbell, in his historical work on "The Nests and Eggs of Australian Birds," gives the clutch as from four to six in Australia. I have taken a large number of nests, and place the average at five. On one occasion, however, I took the large number of fourteen eggs from one nest, but, as must be the case with large clutches such as this, two or more birds probably used the same nest. This is most likely, as the swamp from which I took the eggs had been burnt, and, although originally about five acres in extent, was reduced to a couple of patches of raupo measuring about forty yards by fifteen. In these patches all the Pukekos in the locality had to build, and from them I took nests containing 4, 14, 6, 6, 7, 5. Four of the eggs from the fourteen clutch were more boldly splashed (not spotted) with chestnut than any I have ever seen. Other clutches taken in New Zealand are as follows:—8, 5, 5, 5, 3, 7, 5.

The eggs do not vary much in size or colouring, and those of each clutch are always much alike in shape and markings. In some the markings are larger and bolder than in others, while on others the spots are of uniform size and evenly distributed. Some have the chestnut markings confined more or less in a ring at the larger end and the underlying violet spots thinly scattered all over the egg. The ground colour varies from a pale cream to a rich brownish-cream, and the eggs are lightly spotted and splashed with chestnut brown and underlying violet. They measure from 2.1 inch to 1.85 inch in length, and from 1.49 inch to 1.31 inch in breadth. An average egg measures 1.96 inch x 1.38 inch.

The young leave the nest within a short time of hatching, and hide at once if danger threatens. If one remains quiet for a few moments, the soft whistle reveals the hiding place, and they are easily captured.

Nothing is more interesting than the helpless Pukeko of a day or two old, with its dark bluish-black down, with silvery hair-like tips, and ivory bill.

North-Western Notes.

BY THOMAS CARTER, POINT CLOATES, W.A.

ON the 10th September I paid a flying trip north in the hope of finding eggs of *Eremiornis carteri*, but was unfortunately too late. When driving in a buggy through the thick, scrubby grey-leaved species of saltbush, in which one finds this bird, and which, growing from 3 to 4 feet in height, is very difficult stuff to "wade" through, I noticed an old bird fly out. On going to the spot I found a nest, which I have no doubt belonged to this species. It was built among the twigs, about one foot from the ground, and was a bulky structure measuring about $4\frac{1}{2}$ inches across the top, and 3 inches in depth. The top was quite open and somewhat deep. The nest was built of dry grass and fibre, some of the latter being of a texture like loose twine. Lining there was none, but several dead saltbush leaves were in the bottom, having probably fallen in. Inside the nest and below it were numerous elytræ of beetles, mostly of a small shield beetle. The old bird perhaps resorted to the nest to eat them. I have noticed remains of black beetles in the crops of specimens shot before. The young birds appeared to have only recently left the nest. The bird I shot was a male.

A little farther on, the same day, I saw a family party of Rufous-crowned Emu Wrens (*Stipiturus ruficeps*). One of the young birds I shot had apparently just left the nest, and it had no trace of the bright rufous crown of the adult bird.

It appears, therefore, that both these species lay about August, or it may depend much on the rains. This is a somewhat dry season.

With reference to Mr. A. W. Milligan's lately described *Mirafra woodwardi*, when driving about 50 miles inland from here on the 30th and 31st of October last year, I noticed some small Larks of a very rufous colour that were strange to me, and I shot three or four. They were feeding in the short grass by the road, and when disturbed rose with a rising and falling flight to settle again not far away, and lie close: and they seemed rarely to perch on bushes, though I noticed them doing this last month, when I saw numbers of them in the same locality.

On reading descriptions of *M. horsfieldi* and *M. secunda*, I did not feel satisfied that my birds quite tallied with them, and mentioned, casually, in a letter to Mr. A. J. Campbell, that I had

shot some very rufous Larks, and thought of washing a skin to see if the colour was permanent or only dust off the red soil they seem to haunt. However, I did not do this, nor yet send a skin away for proper identification as I had intended, until I heard of Mr. Milligan's description, when I sent a skin on to Mr. Woodward, and have just heard from him that Mr. Milligan examined it, and says it is identical with his species.

Protective Colouration of Australian Birds and Their Nests.

PART I.

BY D. LE SOUËF, C.M.Z.S., &C., MELBOURNE.

(*Read before the Aust. O.U., Adelaide Session, 2nd November, 1901.*)

THIS is possibly rather a hackneyed subject, but always an interesting one, and which is so frequently brought under one's notice when in the country that I thought a few brief observations upon instances which have come under my notice may be of interest to some; and in writing these notes I am presuming that birds have the same vision as ourselves, and that what would be difficult for us to see would be equally so for them, and personally I think that is the case.

It may be accepted as a general rule that in birds that build their nests in more or less exposed situations the female is generally protected by her sombre colour—as, for instance, the Birds of Paradise and many others; and in bright-coloured birds, where the female does not differ much from the male—as, for instance, Cockatoos, Parrots, Kingfishers, and Bee-eaters—the birds nest in holes, either in trees or on the ground; and when the colour of the male bird harmonizes with its surroundings, and is practically the same as the female, he generally takes his place on the eggs as well as the female bird—as, for instance, Emus, Frogmouths or Podargus, Nightjars, Green Fruit Pigeons, and sea-birds; and it is a rare thing for any bird which nests in the open to have a brightly coloured back, that being the only part exposed to view from above when a bird of prey may be passing over. But we must remember that there are always exceptions, and we cannot make a hard and fast rule. We may now briefly mention some of the families. Eagles, Hawks, and other birds of prey hardly require any protection. The male and female differ little in colour, but the latter is the larger. Their nests are generally large and conspicuous, and apparently no effort is made to conceal them. The same applies to Crows, Ravens, and Crow-Shrikes (*Strepera*), and I have never yet seen a bird of prey attack them. In Rifle Birds (*Ptilorhis*) the males are very bright and showy, but the females dull brown. Their nests are constructed of twigs and leaves, often with pieces of cast

snake skin fastened on, and built in thick vegetation, which, combined with the dull colour of the sitting bird and the general gloom of the scrub, screens them to a great extent from above, and the male generally keeps well away from the nest. Orioles are a bright colour, in which green largely predominates, especially on the back, and they build their deep hanging nests well towards the end of a bough, among the green leaves, and from above the sitting bird is very difficult to distinguish. The *Collyriocincla*, or Shrike-Thrushes, are all mostly of a dull grey colour, and not much difference between the male and female. The large varieties build their nests generally of shreds of dry bark, nearly the same colour as themselves, and place them either on a dead stump or in a hollow, in places where the surroundings are of a similar colour, and frequently in open forest country. The smaller varieties, which live in the scrubs of Northern Queensland, build their nests low down in Pandanus Palms or other shrubs, and the material they use is mostly palm fibre or rootlets, and very difficult to distinguish. The male often relieves the female at incubation, both birds being of a protective colour. The *Graucalus* and *Lalage* both build nests which are very difficult to see, being small and almost exactly the same colour as their surroundings, and also of the bird, as the backs of the hen birds in both families are more or less dark grey, and their nests are situated in the horizontal fork of a bough where the outside bark is rough and dead, and not smooth and green as it is towards the end of the branch. The nests are composed mostly of small twigs well held together with cobwebs, and very difficult even at a short distance to distinguish. The Caterpillar-eater (*Edoliisoma tenuirostre*) places pieces of lichen on its nest, if any happens to be on the branch near it.

The little Lemon-breasted Flycatcher (*Micræca flavigaster*) has a habit of covering its tiny nest with pieces of bark, taken from the tree on which the nest is built, and, being so diminutive as well, it simply looks like a small excrescence on the branch on which it is situated, and is a beautiful instance of the way the bird makes its home almost invisible even from a short distance.

In the beautiful family of Robins the back of the female is dull brown or grey, and the small amount of red or other colour on her breast is well hidden when she is sitting. Their nests are built in various situations, and the material used depends on the locality. Such Robins as *Petræca rosea*, building in gullies, where moss is abundant, generally use plenty of that material, frequently placing the nest on green or moss-covered branches. Others, such as the Yellow-breasted Shrike-Robin (*Eopsaltria*), to make their nests look more like the surroundings, hang strips of bark on, often 4 inches long, also pieces of lichen and empty spider cocoons, fastening them on with cobweb. Those varieties, again, that nest in open forest country, such as

the Hooded and Dusky Robins (*P. bicolor* and *P. vittata*) are much duller and plainer in colour, and use thin strips of bark wherewith to construct their nests and fix them either on dead branches or stumps or on boughs that are covered with grey bark of a similar colour to that of which their homes are composed. The back of the female harmonizes very closely with its surroundings.

The Large-billed Fly-eater (*Pseudogerygone magnirostris*) is another wonderful instance of how a bird can build its nest to look like surrounding objects. Its home is constructed on the end of a creeper which is hanging either over a swamp or stream. It is about a foot long, and consists of fibre, &c., very loosely twisted round and fastened to the creeper, and at the very bottom the small nest is fixed. When you first see it you at once think it is simply a piece of rubbish left by some flood, as plenty of pieces similar in appearance can be seen that have been so left, and the birds seem to have imitated them to perfection.

In the *Maluri*, or Wrens, the males are resplendent, but the females grey, but as their nests are domed the sitting bird cannot be noticed. Their homes are generally constructed of dry grass and well hidden in thick vegetation about a foot or so from the ground, where a good deal of undergrowth is dead, so making them difficult to detect.

In the Fan-tails (*Rhipiduræ*), the White-shafted, and others of a similar grey colour, construct their wineglass-shaped nests of fine shreds of grass and bark, well covering them with cobweb, and they are situated in some cases high up, especially in the Western Fan-tail (*R. preissi*), and occasionally low down, generally on the branch of a eucalyptus tree, where the outer covering of bark is dead and grey, and harmonizing in colour. The Common Fan-tail (*R. tricolor*), having a black back, and therefore more conspicuous, builds its nest generally a few feet from the ground under a leafy cover, or, failing that, on a small branch jutting out underneath the covering of a larger bough; it is rarely that this sociable little bird has its nest exposed from above. The *Myiagræ* construct their nests of shreds of bark, and situated on the outer dead bark of the horizontal branch of a eucalyptus tree, such as those of the Leaden Fly-catcher (*M. rebecula*), and the back of the hen bird is dark-grey, corresponding in colour to the bark. The Spectacled Fly-catcher (*Piezorhynchus gouldi*) constructs its nest on a small shrub in thick scrub, and generally in a dry watercourse, and fastens on the outside of its nest, by means of cobweb, green moss and cast skins of lizards, &c., and the back of the female bird is inconspicuous. The Ground-Thrushes (*Geocichla*) build their nests in the densest thicket they can find, and if moss is plentiful construct them principally of that material, otherwise of grass. The birds themselves generally live on the ground,

and their dull brown colour harmonizes to perfection with the deep shade of their surroundings. The Bower Birds (*Chlamydera*) construct their open nests of light twigs on dead or grey branches of some light eucalyptus tree in open forest country, and the female bird, being practically the same colour, is very difficult to detect, whilst the Satin Bower Bird (*Ptilonorhynchus violaceus*), where the hen is of a mottled green colour, builds on a branch well among the green leaves, and often in the centre of a bunch of mistletoe, generally choosing a thickly timbered gully or similar place, and although the birds are plentiful enough in places their nests are rarely found, yet they are not often built more than twelve feet or so from the ground; they line their nests with a few dead leaves. The Cat Birds (*Aelurædus*), also being green, likewise build their nests towards the end of a branch, among the green leaves, and they also choose thick scrub in which to construct their home, and the bird harmonizes with its surroundings. The Bristle Birds (*Sphenura*) are of a dull brown colour, and live in the densest scrub, on the ground, as does the Pilot Bird (*Pycnoptilus*), of a somewhat similar colour, but darker, and they construct their domed nests of grass and leaves on the ground, generally well hidden by scrub.

The little Grass-Warblers (*Cisticola exilis*) construct their delicate nests frequently of the fluffy seed stems of the dandelion, or similar soft material, held together with cobweb, and they also use the latter material as thread, with which they sew together the neighbouring leaves, which they draw round the nest, almost completely hiding it from view, or if the nest is built in long grass or standing grain they wind the long leaves round their delicate homes, apparently to make them assimilate with their surroundings, which they do to a remarkable extent. The birds, being light reddish-brown, are inconspicuous. Acanthizas are dull-coloured birds, but they build domed nests, which are generally made of bark or other material obtained from the tree or shrub on which they are built, and, if possible, choose a site alongside a bunch of dead leaves or twigs, generally low down, and the nest has a very similar appearance to what is alongside it, and may easily be mistaken for such a bunch, and I have no doubt often is. The familiar Tits (*Acanthiza chrysorrhoa*) are an exception, as they often build their bulky nests in conspicuous places, but they are very fond of constructing them in prickly bushes, such as *Acacia armata*; they do this especially in Western Australia, and although the nests are easily seen they are difficult to get at, especially for a large bird of prey. The birds are plentiful over the greater portion of Australia and Tasmania, which shows that their nests are not much interfered with. The Orthonyx, in New South Wales and Queensland, are very dark-coloured birds, but they build domed nests on the ground, the interior being composed of green moss and the exterior of leaves and sticks, picked up from the immediate

PLATE IV.



Nest of Grass-Warbler (*Cisticola exilis*),
Showing cobweb threads used to fasten leaves together.

neighbourhood, and consequently they are practically impossible to detect unless one is on the ground opposite the entrance. These birds live on the ground in the thickest scrub, and consequently their colour harmonizes with the dark-coloured soil on which they are found. The *Cinclosoma*, or Ground-Bird, makes an open nest of bark or leaves on the ground, generally alongside a tussock of grass or log, but so correctly is the back of the bird assimilated with its surroundings that one only discovers the nest by seeing the bird fly off close to one's feet. The Coachwhip (*Psophodes*) is another scrub-loving, dark-coloured ground bird, and its shallow open nest is placed some two or three feet from the ground in any very dense cover, which completely hides it from observation.

Magpies (*Gymnorhina*) and Butcher Birds (*Cracticus*) are to a certain extent conspicuous, but the backs of the females are much duller than those of the males, not having so much white on them; their nests are fairly conspicuous, being generally in forest trees or large shrubs in comparatively open country, but both birds are quite capable of defending themselves if necessary. I do not think they are ever attacked by others. In Thickheads (*Pachycephalæ*) the females are always a dull colour, but they build their open nests in the thickest bush they can find, which effectually hides them from above, even without the inconspicuous colour of the hen bird. The Sittellas or Tree-runners construct a most wonderful nest. It is lined inside generally with lichen, and the outside is covered with pieces of bark which are well and evenly fastened on with saliva and cobweb. It is situated in the fork of a tree and is exactly like its surroundings, so much so that when it is seen it is generally not recognized as being a nest but simply a short broken piece of bark-covered branch. The hen bird herself is of an inconspicuous colour, and as long as she remains quiet on the nest is very difficult to detect.

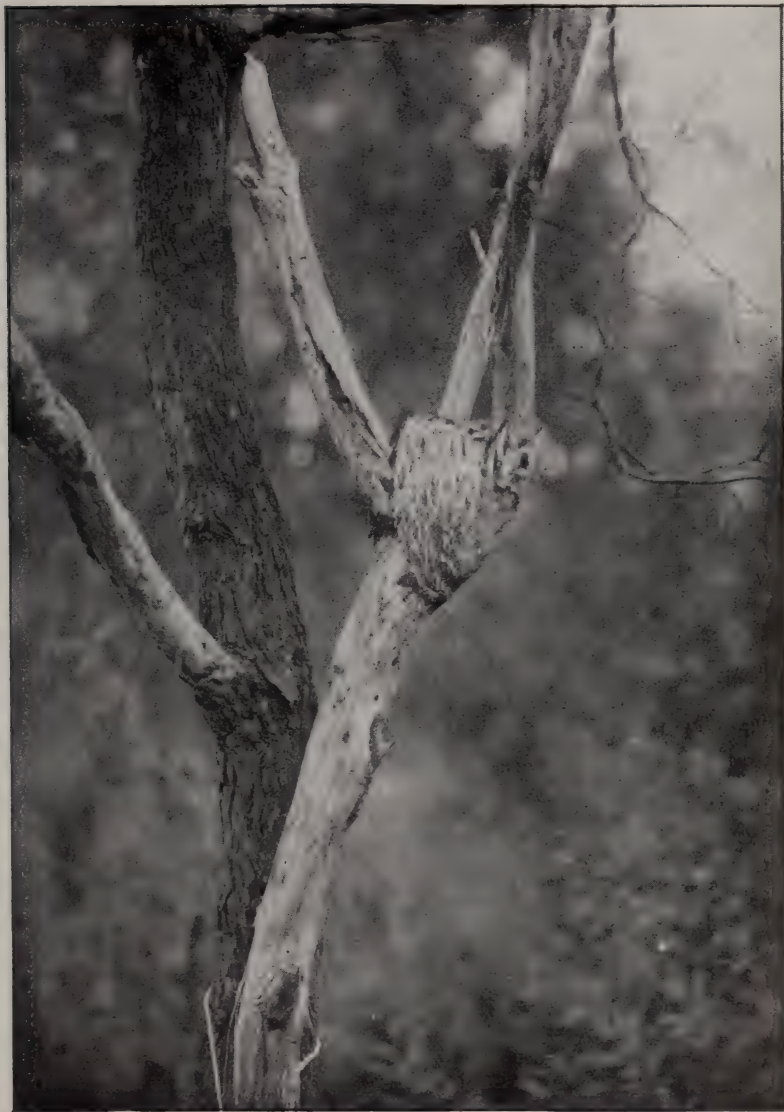
Corresponding and Observatory Stations.

BY WILL. M'ILWRAITH, ROCKHAMPTON.

(Read before the Aust. O. U., Adelaide Session, 2nd November, 1901.)

ALL readers of Gould's famous book on the birds of Australia must have noticed that he was largely indebted for information respecting them to correspondents and observers in different parts of the continent. Among the objects of the Australasian Ornithologists' Union must be the acquisition and dissemination of accurate and scientific information respecting the avifauna. It goes without showing that these cannot be attained or accomplished without following the practice of the father of Australian ornithology. The appointment of corresponding members and establishment of observatory stations, in the

PLATE V.



Nest of Orange-winged Tree-Runner (*Sittella chrysoptera*).

FROM A PHOTO. BY D. LE SOUEF.

opinion of the writer, ought to receive the early and practical attention of the Council. Members of the Union, it is to be hoped, will be found in widely separated localities of Australasia, not merely willing but anxious, as far as in them lies, to collect information about birds which are most common in their districts, and communicate it for the general information and entertainment of bird-lovers. By such means we may be able in time to determine the area of greatest production—the very cradle or nest-land—of species; trace the radii of distribution from it, discover the occurrence of varieties and the conditions by which they have been evolved or created. Only by close and continuous observation will we be able to complete the list of Australasian native birds, and their range within the sphere of our observations.

The residence of every member, in a certain sense, must be an observatory station. Your true ornithologist cannot help it being so. There ought to be stations, however, dotted along the coast, and all over the interior of the country. This is most desirable in connection with observations upon the migration of birds. Most interesting information upon this subject has been collected within recent years, and with amazement we have learned that the breeding-places of our grallatorial summer visitors are to be found among the tundras of Siberia, within the Arctic Circle. The migration of birds has not received so much attention in this country as it has done in the United Kingdom since the days of Gilbert White, and in America since Alex. Wilson marked the flight of the enormous flocks of pigeons. Twice in the year we have literally flying visits of Snipe, Sandpipers, Godwits, and other less known waders. Once in a while, too, one catches glimpses of the Great Swift, hawking for a time low over the coastal scrub, and then disappearing high up in the empyrean. The continental, as well as the extra-continental, migration of birds calls for careful observation. Their movements are seen to be due to changing physical conditions in their usual habitats affecting supplies of food. Is it to similar conditions that the great north and south migrations of birds in Europe and America are to be traced?

The establishment of stations would be highly conducive to the collection of information. Persons who found a strange bird would know where to send it for identification, and in this climate the more stations we have the better. Birds sent to Rockhampton from western downs country, even when carried by rail, are rather high on arrival. Members of the Union having or taking occasion to travel would find at each station someone able to give information about the birds of the district, and where particular species might be found. There are few pleasures more enjoyable than an interchange of ideas upon a subject in which the persons concerned are enthusiastically interested. When it has

been determined to prepare a list of correspondents and stations I am quite willing my name should appear as correspondent at Rockhampton.

Notes on Certain Maluri, with a Description of a New Species.

BY A. J. CAMPBELL, Melbourne.

1. OWING to the great interest aroused by the discovery (or perchance, re-discovery) of a black and white *Malurus* for Australia (see page 26 previous number), it has been thought worth while to give illustrations pertaining thereto. See plate vi. Fig. 1 is *M. edouardi* as it is set up in the Perth Museum. Fig. 2 is a copy of Quoy and Gaimard's figure *Mérion leucoptère* or *Malurus leucoptera*, from an original sketch made on the spot.

It will be noticed that the bill as shown in the French naturalist's figure is comparatively very stout for a *Malurus*. The following is the text of the description of this bird, translated from the French:—"This bird comes from the same place as the previous one (*Amytis textilis*). We only met it on the Island of Dirk Hartog, living among the *traquets*, which it seemed to us to resemble in its habits. It is shown with natural splendour in the sketch which M. Arogo made of it at the time. Its whole head, neck, belly, and the upper part of the back are of so dark a blue as to appear black; the wings are white on the upper part and brownish at their extremities. Perhaps the latter colour depends on the age, and is not that which ought always to be there. The beak is black and the claws are brown. Total length, 3 inches 4 lines, or thereabouts."

2. Gould has figured an exceedingly beautiful *Malurus* in his great folio work, vol. iii., pl. 20, and named it *M. melanotus* (Black-backed Wren), and another equally splendid species in his Supp., pl. 23, called *M. callainus* (Turquoise Wren). Between these there is apparently an intermediate species or variety, at least if difference of colouring may be taken as a criterion. I alluded to this possible third or intermediate variety in my work "Nests and Eggs," page 171. Since the completion of my MS. for the volume, I have had the opportunity of examining more material, which has confirmed my opinion, and I think ornithologists will eventually recognize this third species. Therefore, I venture to name the new bird *Malurus whitei*, in memory of the late Mr. Samuel White, of Adelaide, who was the discoverer of Gould's type of *M. callainus*, and who lost his life indirectly in the interests of Australian ornithology. Respecting Mr. White, Gould wrote:—"No one of my many correspondents in Australia is more keenly alive to the interest which attaches to our favourite branch of science—ornithology."

PLATE VI.

1. *Malurus edouardi*.2. *Malurus leucopterus* (after Quoy and Gaimard).

The new bird, however, may be known on the Vernacular List as the Darker Turquoise Wren.

Description of the male of *Malurus whitei*:—Crown of head, mantle, breast or abdomen, and upper and lower tail coverts bright metallic blue, nearest shade turquoise; chin and throat rich cobalt or “new” blue; ear coverts light turquoise blue; lores, back of neck, band across breast, and lower back velvety black; wings brownish, with external margins of feathers bluish-green; tail also bluish-green, some of the feathers being tipped with dull white; irides, bill, and tarsi dark. Dimensions in inches: Length, 5; culmen, 0.3; wing, 1.95; tail, 2.1; tarsus, 1.

It will be obvious that *M. whitei*, with its head and mantle turquoise blue and ear coverts light turquoise blue, differs on the one hand from *M. melanotus*, which has head and mantle brilliant ultramarine and ear coverts light blue; and, on the other hand, from *M. callainus*, which has head and mantle light turquoise blue and ear coverts silvery turquoise, almost white.

Geographically *M. whitei* also appears intermediate between *M. melanotus* and *M. callainus*. *M. melanotus* is found in the Lower Murray district and parts adjacent thereto, *M. whitei* in the interior, and *M. callainus* in the interior also, with a leaning towards the west, if an example in the National Museum, Melbourne, be correctly located.

Description of a New Bristle Bird (*Sphenura*).

BY ALEX. WM. MILLIGAN, PERTH.

THE discovery of a new species of *Sphenura* was made by me on the 12th October last in the dwarf coastal shrubs at Ellensbrook, in the south-west division of this State, about midway between Cape Naturaliste and Cape Leeuwin, whither I had gone in the hope of obtaining specimens of *Atrichia clamosa*.

The new bird closely resembles *Sphenura broadbenti*, and at first sight I thought that it was that form, or a western variety of it, but after examination of a skin of the eastern form belonging to the Geelong Museum, and kindly lent by Mr. W. Mulder, I felt that I need not have the slightest hesitation in separating it from that species.

The chief differences between the species are that the new one is much smaller than *Sphenura broadbenti*, and that in the former the rufous or chestnut head is brighter, and the under surfaces lighter than in the latter, and that the yellow gape and triangular loreal spot present in *Sphenura broadbenti* is absent in the latter.

The bird has two distinct calls—alarm notes and song notes. The former it utters when closely pursued and pressed, and resembles the words “pink, pink, pink.” The latter is a series of clear, liquid, thrush-like notes.

The bird was most difficult to flush or even see, and it was

only in the afternoon of the second day's pursuit that I obtained a momentary glimpse of it as it rushed across a kwagga (species of Wallaby) track in the scrub with tail elevated. My next sight of it was on the fourth day of pursuit, just prior to shooting it, when my old Quail bitch disturbed it. Its motion on this occasion (perhaps due to its being severely pressed) was distinctly different from that observed on the former. Appearing, as it did, running at top speed across one of those beautifully rounded sand hills (which abound on the coasts), with its tail depressed below the plane of the body, and its dwarf rounded wings used as an aid to its running, its toes just touching the ground, and its neck stretched to the utmost, the bird reminded me very much of the action of the Lyre Bird in similar circumstances.

The food of the bird, as revealed by dissection, consisted wholly of land snails, those marine-like looking forms which are found in abundance on the coastal limestone hills, apparently lifeless in hot weather, but full of vitality after a shower of rain. One snail, with the shell perfect, was found in the stomach.

The bird was an adult female, but there was nothing to indicate that incubation was near.

SPECIFIC DESCRIPTION.

Upper Surface.—Head and ear coverts bright chestnut, with a narrow whitish zone round the eye. Upper portion of hind neck showing faint chestnut, with round, blackish edgings to feathers. Mantle dark slaty-brown, faintly tinged with rufous and with dappling formed by ashy-grey margins to feathers. Wings, rump, and tail chestnut-brown; shaft of tail feathers black.

Under Surface.—Chin and throat white, with numerous darkish markings on outer margins, giving a dappled-grey appearance. Breast—much darker dapples, with greyish outer margins, the difference in the colouration between the throat and breast and the dark markings of the feathers of the latter forming a divisional and crescentic line between these parts, the same line being also faintly discernible around the whole of the hind neck.

Abdomen—Dapplings less distinct and irregular, flanks dark slate-brown.

Under Tail Coverts.—Reddish-brown, long, and feathers loose in texture.

Mandibles.—Shining dark brown, approaching blackness, except the lower one, which is much lighter towards gape, but not yellowish.

Legs and Feet.—Dark brown.

Irides.—Red.

Wings.—Very rounded, the first quill very short, the sixth and seventh terminating equally, being the longest. Feathers, on back flanks and under tail coverts, loose and coarse. The

tail feathers set in pairs, the upper pair being the longest, and gradating to the under pair, which is the shortest.

I have given the new bird the specific name of *litoralis*, and the vernacular name of "The Lesser Rufous Bristle Bird."

For comparison I append the following measurements:—

	Total length.	Wing.	Tail.	Tarsus.	Culmen.
<i>Sphenura broadbenti</i>	10.5	3.7	5	1.4	.7
<i>Sphenura litoralis</i>	9	3.4	4.5	1.2	.6

Should Mutton Birds be Protected?

MUTTON-BIRDING (according to the species of Petrel) has almost become a national affair in some parts of New Zealand, in Southern Australia, notably on islands in Bass Strait (where alone it is reckoned that the number of young birds taken for food amounts annually to about 600,000), and on certain islets off South-Western Australia. In the interests of these sea-fowl, should they be protected?

Regarding Victoria the question has been brought somewhat prominently under notice lately by a sensational letter from Mr. Charles French, jun., Assistant Government Entomologist, which appeared in the Melbourne newspapers anent the wanton destruction of these interesting and profitable birds on the rookeries on Phillip Island, Western Port. Happily it is believed that the cruel cases cited by Mr. French are of rare occurrence. However, Mr. French was able to arouse the indignation of the Field Naturalists' Club, and it was resolved to recommend the Administrator of the *Game Act* to protect the Mutton Birds on the islands off the Victorian coast. Of course, there are other interests to be conserved—to wit, those of some of the islanders, whose staple food is Mutton Bird flesh and eggs when in season—therefore it is apprehended that any protection extended to the birds will not be absolute, but will merely regulate the traffic in eggs and young birds.

It was a coincidence that at the recent meeting of the Aust. O. U. at Adelaide, when it became known that the next annual meeting was to be held at Melbourne, an excursion to the rookeries on Phillip Island was casually mentioned, so that there would be an opportunity to ascertain whether or not it was time to regulate the birding traffic. Some of our older ornithologists have been keeping a "fatherly" eye on the rookeries on the island for years, to see if there be any diminution in the numbers of birds that annually visit the place. So far, the result of these casual observations has been slightly in favour of the birds.

It may be mentioned that this season there were an extraordinary number of egg-gatherers on the Cape Wollomai

rookeries. Not only did parties come from Melbourne, but from Geelong and even Ballarat. Several ladies accompanied their husbands, being provided with tents and the necessary utensils to enjoy the novelty of an eggging picnic for a few days.

Forgotten Feathers.

ONE of the first-described nests of the Coachwhip Bird was recorded in a paper read by A. Dobree, Esq., before the Royal Society of Victoria on 27th August, 1861. The writer says:—"The present nest and eggs were obtained by me near the banks of the Yarra Yarra, near Heidelberg, on one of those points of land or 'bends' of the river still left in their original state, and where the underwood and tangle are extremely dense. . . . The female bird was sitting so closely as almost to allow herself to be captured, thus removing all doubt as to the identity of the nest and eggs. The nest was in the most tangled part of the thicket, and was placed in the forked branches of a shrub, about 4 feet from the ground. It is cup-shaped, about 5 inches outside diameter; the exterior of dry slender twigs, and the interior lined with thin fibres and a few pieces of horsehair, the latter evidently owing to the accidental vicinity of some farms; the whole structure is neither very solidly nor elaborately built. It contained two eggs—length *exactly one inch*, extreme width *three-quarters of an inch*. In shape they are not much pointed at the thinner end, and the greatest girth is about the middle. Their ground colour is pale greenish-blue, with streaks and dots of various sizes scattered pretty equally over the whole surface; these markings are of a brownish-black colour, and of two kinds—the one being very distinct and sharp, the other somewhat less numerous, more greyish, and much fainter, having the appearance of being under the shell. From the fact of the bird sitting so closely, I conclude that no more than two eggs are generally laid, though the present ones had not yet been perceptibly incubated. I regret to say I have kept no precise memorandum as to the date of the finding of the nest, but believe it to have been about the end of October."

It may be added that the Coachwhip Bird was heard in Willsmere Park, East Kew, amongst the dense scrub which then existed there, several times as late as the spring and summer of 1886. The bird was possibly there later, but an interval of four or five years elapsed before the observer's next visit, and then it was not to be heard or seen. A Satin Bower Bird was seen there during the same year.

Concerning *Ephthianura albifrons*, whose nest he regarded as up to that time undescribed, Mr. Dobree wrote (Trans. Roy. Soc. Vict., vol. v., p. 143):—"It may be met with in the dry portions of the swamps extending between the Saltwater

and Yarra Rivers. I discovered its nest about 4 feet from the ground, in a stunted bush, on the edge of a tea-tree scrub which covers part of that locality. The structure is cup-shaped, somewhat deep, and about 4 inches outside diameter; dried fibres, fine twigs, and stalks form the exterior, and the lining is composed of horsehair and fine grasses. It contained three fresh-laid eggs; length, $1\frac{1}{8}$ -inch; extreme width, $\frac{1}{3}\frac{1}{2}$ -inch; shape, not much pointed; ground colour white, with fine red-brown markings, consisting of points, streaks, and roundish dots, the larger markings being most abundant at the thicker end, where they form a sort of wreath, while some of the smaller ones are scattered over the other parts of the surface. The markings are, in nearly every case, surrounded by a faint ashy margin of their own colour, imitating the appearance of having been painted on the white ground before the latter had properly dried, thus causing them partially to run into the white surface. This seems to be a decided characteristic in these eggs. The nest was discovered about October."—H. K.

Stray Feathers.

APSOTOCHROMATISM.—Those interested in the discussion which is vexing the souls of contributors to English and American bird magazines as to whether a moult takes place at every seasonal change of plumage, and which has been conducted in some cases under the barbarous heading of "Apsotochromatism" (literally a non-falling-off of colour), may find food for thought in the following incident, recorded in the *Victorian Naturalist* (vol. ix., p. 168), and mentioned originally in a letter to one of the editors of *The Emu*. Mr. E. M. Cornwall, a close observer of birds and their ways, says that a Galah "managed to injure its wings when flapping them, as birds love to do, after a shower. . . . It was soon noticed that the whole of one side of his plumage was becoming of a darker colour, and two days after the injury the pink of the injured side had turned a dark red, and the grey of the back was distinctly darker on that side. . . . The bill also assumed a darker colour on that side." The vane of a feather is usually regarded as physiologically dead, but this occurrence, though an exceptional one, seems to strengthen the argument of those who contend that it is possible for colouring matter to pass from the basal gland throughout the whole structure.

* * *

FOR OBSERVERS.—No detail in bird life is too trivial to be overlooked. All aid to a complete knowledge of its life-history, which is not revealed only in what may be called its public appearances, but in those chapters of its existence when

it is unaware of being watched, and during which the observer must lie patiently hidden, but ever alert. A wider knowledge of bird anatomy would also be an assistance to exactness in the study of ornithology.

Where species are divided by very narrow lines, as in the case of some Australian birds, there is always the probability of an intermediate one being brought to light which may connect one with another. A good collector, in any branch of natural history, is always on the watch for such specimens.

The date of each migratory bird's appearance in and disappearance from each district would furnish valuable reading for ornithologists. If supplemented by the date of nesting, number of clutch, &c., and verified by the signature of the observer, these details would be worth preserving for reference and for checking purposes. Migratory might be more clearly distinguished from non-migratory birds, geographical limits of species defined, &c. Other details, such as variations in size, plumage, colour of eggs, or in habit, would also be of interest. True "field notes" forwarded for publication will always be acceptable.

* * *

BELL BIRDS AND CATERPILLARS.—"Saw a Bell Bird's (*Oreoica cristata*) nest about the middle of June. Male was sitting on two eggs, one about half the size of the other and addled. Hairy caterpillars in nest. Have found young during July."—Tom Carter. Hairy caterpillars placed in the nests of Bell Birds have also been noted in Queensland ("Nests and Eggs," p. 311—Campbell). Can any member suggest a reason why the insects are found in this particular bird's nest?

* * *

DROUGHT AND DEARTH OF BIRDS.—"Native Companions have been very scarce in this locality this season. In the early part of the year small flocks were to be seen flying overhead in a northerly direction, but of late there are only odd pairs to be seen, whereas at this time last year they were here in hundreds. The scarcity at present is owing, no doubt, to the drought.

"The young grasshoppers are not so plentiful either, which is nothing more than expected, as last year there were very few female grasshoppers about, not more than 20 per cent. being females.

"I noticed that favourite little bird, known here as the Summer Martin or Wood Swallow, arrived to-day. These birds always seem to come here from the north, flying in large numbers high in the air. They are great destroyers of the young grasshoppers,—more so, I think, than the Ibis. A peculiar feature about the Summer Martins is that as soon as the grasshoppers begin to fly they cease destroying them.

"There are few young Emus to be seen. There are plenty of old birds of both sexes about, but through the drought they have not laid."—A. J. SIMPSON. Deniliquin, N.S.W., 8/10/01.

* * *

FIELD NOTES OF JNO. T. TUNNY, WESTERN AUSTRALIAN MUSEUM, MADE ON BEDOUT ISLANDS, 30 MILES N.W. OF CONDON, APRIL, 1901. — One egg of the Crested Tern (*Sterna bergii*) in each nest, which is only a small hole in the sand. In colonies.

Sooty Tern (*S. fuliginosa*). One egg in each nest.

Small Tern (species?). One egg in each nest, usually in the sand, under the tall grass.

Booby or Brown Gannet (*Sula sula*). In each nest two eggs. Nest is usually a small hole scratched in sand, sometimes a few pieces of sponge, &c., strewn round. (See plate ii., part i).

Masked Gannet (*S. cyanops*). Two eggs to each nest, on the sand. (See plate ii.)

Lesser Frigate Bird (*Fregata ariel*). One egg to each nest. (See plate ii.)

* * *

RICHMOND RIVER (N.S.W.) NOTES.—Mr. Henry R. Elvery reports two curious notes from the Richmond River scrubs:—(1.) In several instances he has observed that the small Brown Tit (*Acanthiza pusilla*) relines deserted domiciles of the Yellow-throated Scrub Wren (*Sericornis citreogularis*), and lays its own eggs therein. (2.) Not far from Mr. Elvery's house was a bower of a Satin Bird in a patch of second-growth scrub. When the Satin Bird left the district (it does not breed there) the bower was appropriated by a Regent Bird. Mr. Elvery was witness to these facts himself.

* * *

THE BRUSH CUCKOO (*Cacomantis variolosus*).—An egg was found on the King's Birthday (9th November) at Scotchman's Creek, Oakleigh, near Melbourne, in a White-shafted Fan-tail's nest, together with two eggs of the Fan-tail. Incubation had commenced in all the eggs, but was more advanced in the strange egg. The nest, which was situated in a thick belt of tea-tree (*Melaleuca*), was placed so low that one could look into it whilst standing alongside.—P. AND A. YOUNG. Caulfield Grammar School.

* * *

A SPOTTED BOWER BIRD AT HOME.—"There is a Bower Bird's playground here (Crowsdale, Q.)—quite a new one. The bird is getting quite a collection about him—small stones, snails' shells, pieces of paper, bleached and burnt bones, green berries, caterpillars' webs, and a Hooded Robin's egg-shell. The last-mentioned, which I gave him, occupies a place

of honour. He is a very clever bird—gets fresh ironbark (eucalypt) leaves every day, places them in the bower, and throws the stale ones out.”—ERNEST D. BARNARD.

* * *

FROM A LADY CORRESPONDENT (QUEENSLAND).—“A little Shepherd’s Companion (*Rhipidura tricolor*) has built in the vine right in front of my window, so I can watch it while doing my hair at the glass. Though I do not agree with the poet that

‘Birds in their little nests agree,’ &c., &c.,

yet since I saw the R.T. savagely attack a small Honey-eater (*Ptilotis fusca*) and get it down on to the path on its (the P.F.’s.) back, I have ceased calling them (R.T.’s) ‘dear little things.’”

* * *

TIME CHANGES ALL, HOW SOON!—Lately a British ship (the *Knight Errant*, with a cargo from New York), 500 feet over all in length—the longest vessel that has come up the River Yarra—was berthed in the Victoria Dock, over the spot which not a quarter of a century ago was the edge of the West Melbourne Swamp, where Wild Ducks dabbled and Black Swans paddled in the mud.

* * *

A SAD MISADVENTURE.—On the 23rd October, at Barcal-dine (Q.), a bird fancier named Watts met with a fatal accident. He had climbed a large gum tree to a height of about 60 feet after a stray bird when he fell (through a branch breaking) to the ground and was killed.

* * *

PARRAKEETS IN THE CITY.—A pair of Red-backed Parra-keets (*Psephotus hæmatonotus*) has been for months frequenting the vacant pieces of ground between the Australian Wharf and the Victoria Dock. Possibly they roost in the roof of some of the adjacent buildings, probably the Gasworks.

* * *

FRONTAL SHRIKE TITS BREEDING NEAR CITIES.—This season (October) a pair of Shrike Tits built a nest and reared young in a tall gum tree overhanging the Yarra, not three miles from Melbourne. Another pair had a home in a tree above the kitchen at “Holmfirth,” Fulham, about six miles from Adelaide.

* * *

AN IBIS ROOKERY.—“Thousands of Ibises are nesting on Widgiewa station, and within ten miles of Urana. Their nests are on ‘ligrun bushes and on the higher tufts of ground

between, and are filled with eggs (or rather 4 or 5 in a nest)*, making 50 to 100 eggs on a bush. The birds are packed together on these bushes as close as they can stand, till nothing of the bushes or ground between can be seen for them. It is a wonderful sight to one who has never seen it before. The young birds began coming out about three days ago, but some are still laying."—CONWAY M. MACKNIGHT, Surgeon. 24/11/01.

From Magazines.

"REPORT OF THE EIGHTH MEETING OF THE AUSTRALASIAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE, HELD AT MELBOURNE, 1900."—In connection with this volume, which has just been issued, it is to be regretted that for the want of the necessary funds the following papers are recorded only, and not published, viz. :—"Protective Colouration of Australian Birds and their Nests," and "Variation in the Colour of Australian Birds' Eggs," both by Mr. D. Le Souëf, C.M.Z.S.; "Notes on Some Desert Birds," by Mr. G. A. Kearnland; "Notes on a Collection of Birds from Western Australia," by Mr. R. Hall; and "Reserve Fertility of Birds," by Mr. A. Sutherland, M.A. The loss of publicity of these interesting articles emphasizes the necessity for the existence of such a purely ornithological journal as *The Emu*.

While on the subject of the last Melbourne Congress of the A. A. A. S. it was perhaps an error of judgment in the "Handbook" to have furnished old and obsolete names with such excellent descriptive matter as that on the "Birds of the Melbourne District." This is all the more remarkable seeing that at the previous (Sydney) meeting a "List" of Australian birds' names, both technical and vernacular, was adopted by the Association and afterwards published.

* * *

A NICE POINT.—At the Sale police court four lads were charged with being in possession of Swans' eggs, contrary to the provisions of the *Game Act*. The first case was that of George Palethorpe, who pleaded guilty to having 55 eggs in his possession. He was fined 1s. for each egg, or 55s. in all. The other three defendants, who were in company with Palethorpe, were defended by Mr. G. Wise, who objected that, as Palethorpe had been convicted of having the 55 eggs, the other defendants could not also be convicted for having them. Mr. Cresswell, P.M., said the objection was fatal, and dismissed the cases against the three, adding that if they had all been charged collectively they would have been convicted.—*The Argus*, 20/7/01.

* Usual complement 2 to 4.—EDS.

THEOLOGY AND ORNITHOLOGY.—Missionaries, although they have often good opportunities, are, as a rule, poor natural history collectors. A notable exception is mentioned in the Presbyterian *Messenger* of 4th October last. Some Roman Catholic missionaries in Shen-si, a remote inland province of China, happen to be men with a turn for ornithology. The museum at South Kensington has recently been the recipient of a case of birds collected by these ardent naturalists during the continuance of the Boxer outbreak of last year.

* * *

AN EXAMPLE FOR THE AUSTRALASIAN O.U.—American milliners are likely to cause the extermination of sea birds, especially Gulls and Terns, on the coast of the United States, and as Gulls are useful scavengers, as well as a charm of the seaside, the committee of the American Ornithologists' Union has undertaken to guard and protect their nurseries.

* * *

A SOUTH AMERICAN "SPARROW."—The strange table-land of Mount Roraima, in British Guiana, which is some 8,700 feet above sea level, has been visited for the second time by Messrs. F. V. M'Connell and J. J. Quelch on a collecting expedition. The only bird noted is a new species of *Zonotrichia* (*Z. macconnelli*). A coloured plate in the Trans. Lin. Soc. (vol. viii., part 2) figures this new member of what Darwin (*Journal of Researches*) called the "Sparrows" of South America, as well as *Z. pileata*, from which Dr. Sharpe says it is distinguished by being "a larger and darker bird, much greyer, and with the rump and flanks dark grey instead of brown." Were Sparrows here as handsome many would forgive their introducer.

Review.

[*"The Birds of Siberia: a Record of a Naturalist's Visit to the Valleys of the Petchora and Yenesei."* By Henry Seebohm, F.L.S., F.Z.S., F.R.G.S. With map and illustrations. London: John Murray, Albemarle-street, 1901.]

THIS interesting volume contains the narrative of the late Mr. Seebohm's two Siberian expeditions—the first undertaken in 1875, in company with Mr. J. A. Harvie-Brown, to the valley of the Petchora River; the other to the River Yenesei, in 1877, when he had for a companion Capt. Wiggins, the well-known Siberian navigator. The results of these journeys were published in *"Siberia in Europe"* (1880) and *"Siberia in Asia"* (1882) respectively. Both these works having passed out of print, it was arranged to combine them in one volume.

The work is of peculiar value to Australians, because many Australian migratory birds to and from high northern latitudes

are mentioned. Besides it is written in an easy and unconventional style, free from technicalities. Perhaps the most interesting portion is Part II.—the Yenesei journey—in which the author sledged (it being winter) 3,240 miles, from Nishni Novgorod, in Russia, to the Kureika, an affluent of the Yenesei, just within the Arctic Circle. Including stoppages, the journey occupied 46 days, during which nearly 1,000 horses, 9 score of dogs, and two score of reindeer were used, the total number of stages being 229.

When the winter broke up Mr. Seebohm, a servant whom he hired on the way, and the captain proceeded from the Kureika to Golchika, at the mouth of the Yenesei. The break-up of winter is most graphically described, spring—or a leap from winter to summer—lasting just 14 days.

The field notes of birds recorded throughout the journey, especially during the summer months, are most fascinating, and could have only been penned by one brimful of enthusiasm, and with an extraordinary capacity for hard work. An example of the author's perseverance is the fact that for two days in succession he worked amongst the swamps and mosquitos for 20 hours out of the 24—literally all day, because the "midnight" sun did not set at that season of the year.

On the 5th June Seebohm shot a species which he had never seen in the flesh before—the Asiatic Golden Plover, the variety that migrates to Australasian quarters. (The month following he saw many more and discovered their nests.) The next day he secured another Australian bird, the Terek Sandpiper. Then followed more specimens of the Common Sandpiper. Subsequently in the "full flood" of migration (as well as of the river), Curlew Sandpipers in splendid breeding plumage, Cuckoos (*C. intermedius*), Shoveller (European) Ducks, and other wanderers were obtained.

Besides being an ornithologist of great repute, Seebohm was a keen oologist. Under date of 23rd June he wrote:—

"My fourth important observation this morning was, however, the most valuable of all—in fact, by it I obtained one of the special objects of my journey. As I was making my way downhill to the boat amongst tangled underwood and fallen tree-trunks, rotten and moss-grown, a little bird started up out of the grass at my feet. It did not fly away, but flitted from branch to branch within six feet of me. I knew at once that it must have a nest near at hand, and in a quarter of a minute I found it, half-hidden in the grass and moss. It contained five eggs. The bird was the Little Bunting. It seemed a shame to shoot the poor little thing, but the five eggs were, as far as I knew, the only authenticated eggs of this species hitherto obtained, therefore it was necessary for their complete identification."

Touching another rare species which he was obliged to shoot for identification, Seebohm wrote—"It seems too bad to shoot these charming little birds, but as the 'Old Bushman' [referring to the late Mr. H. W. Wheelwright, who was camped at Mordi-

alloc, Victoria, in the early fifties collecting—EDS.] says, what is *hit* is *history*, and what is *missed* is *mystery*."

He might well grow enthusiastic on such an occasion as this :—

"Suddenly a Thrush flew off its nest with a loud cry, and alighted in a tree within easy shot. I glanced at the nest, snapped a cap at the bird with one barrel, and brought her to the ground in a second. I picked her up, expecting to find a Redwing, but was surprised and delighted to find the rare Dark Ouzel. I lost no time in climbing the tree, and had the pleasure of bringing down the nest with five eggs—so far as I know the first authenticated eggs of this species ever taken."

An ornithologist's paradise is thus described—time, midnight, 12th July :—

"We climbed up the steep bank (of the Yenesei) and found ourselves in a wild looking country, full of lakes, swamps, and rivers, dead flat in some places, in others undulating, even hilly. This was the true Siberian tundra, brilliant with flowers, swarming with mosquitos, and *ful of birds*."

There is no naturalist's expedition, however successful, but begets idle regrets. Notwithstanding the mass of material (over 1,000 skins), and the amount of information obtained, the author of the "Birds of Siberia" concludes thus :—

"I now bade adieu to the tundra, with feelings somewhat akin to disappointment and regret. My trip might be considered almost a failure, since I had not succeeded in obtaining eggs either of the Knot, Sanderling, or Curlew Sandpiper. Nevertheless I was glad to turn my face homewards."

About Members.

It is understood that Mr. A. W. Milligan has been appointed "Honorary Ornithologist" to the Perth Museum.

Amongst the original members and founders of the Australasian Ornithologists' Union are six members of the British Ornithologists' Union, namely :—Mr. J. J. Dalgleish (Scotland), Mr. C. W. De Vis (Queensland), Col. Legge (Tasmania), Mr. D. Le Souëf (Victoria), Mr. J. C. M'Lean (New Zealand), and Prof. Newton (England).

Mr. Clarence Smart, with two of his cousins, spent a pleasant fortnight in November, camped on the Gippsland Lakes. Over 100 species of birds were identified, but only six were secured as new for his collection, including the Black-faced or Carinated Fly-catcher and the Sanguineous Honey-eater. Mr. Smart reports that the latter was fairly numerous in some of the dense gullies running down to the Lakes.

The Furneaux Group of Islands was visited in the latter part of November by a party of members, consisting of Dr. C. Ryan, Mr. R. B. Ritchie, Mr. D. Le Souëf, and Mr. C. F. Belcher.

They had an interesting time, and were able to photograph the nests and eggs of several birds, including the Pied and Sooty Oyster-catchers, the Hooded and Red-capped Dottrels, the Pacific and Silver Gulls, also the beautiful rookery of the Australian Gannets and White-breasted Cormorants. They were enabled to see the wonderful flight of the Mutton Birds as they come in after sunset to the nesting holes—a sight to be seen and remembered. They were rather early for some of the sea birds, as the Crested and the White-fronted (Southern) Terns had not commenced laying, and the Silver Gulls (*Larus novæ-hollandiæ*) were only just starting. Caspian Terns had mostly young ones. A few nests of the Brown Quail were found and young ones seen. The Cape Barren Geese were noted on several islands, and a nest found from which the young had only just been hatched, the two pretty little youngsters being caught and let go again. The Gannets had all fresh eggs, having evidently only just commenced laying, and they are later this season than usual. The fish they often disgorged before flying away weighed in some cases three pounds.

Obituary Notice.

GILLESPIE.—On the 7th October, 1901, at his residence, Dartford, Staniland-avenue, Malvern, John T. Gillespie, aged 36 years, late with Alex. Cowan and Sons Limited.

HE who walks with Nature walks close to the great heart of the God of Nature. The late Mr. J. T. Gillespie was a true disciple of Nature—withal a modest and retiring one—with a leaning towards oology. His collection is a valuable one, mostly the result of his own field outings. He had conscientious scruples about mercenary dealings with birds' eggs, and was never known to purchase specimens, much less to sell them, though he did not object to enrich his cabinet by fair exchanges.

Our late naturalist was also an expert amateur photographer, securing at recent inter-State competitions several important prizes. His last prizes were won as lately as June at Sydney, where he secured third award (bronze medal) for a set of lantern slides, and special award (gold medal) for the best single picture in the exhibition, the prize picture being a pair of young Laughing Jackasses artistically posed on a rough-barked piece of stick.

At the age of 16 Mr. Gillespie entered the employment of Messrs. Alex. Cowan and Sons, where, by diligent application to business, he rose to be deputy-manager of the Australian branch, Melbourne.

About 18 months ago Mr. Gillespie showed signs of tuberculosis, which too rapidly wore down his young and useful life,

to the great regret of his many private friends and ornithological brethren. This regret was amply testified to by the representative gathering at the Boroondara Cemetery on the bright spring day when his remains were laid to rest in sight of the beautiful blue ranges to the east, where he so often and dearly loved to roam in life.

Among the many floral tributes sent was one from the Field Naturalists' Club of Victoria, and another—an exquisite wreath of wild flowers, singularly appropriate—from the Government Entomologist and Mrs. French.

Correspondence, &c.

THE following is an extract from a letter received from Professor Alfred Newton Magdalene College, Cambridge, by Mr. D. Le Souëf:—"I have to thank you for No. 1 of *The Emu*, on the publication of which I most heartily congratulate you and all concerned. Any number of times during the last twenty, if not thirty, years I have been inciting such correspondents as I have had the good fortune to possess in Australia to take an active part in working out the ornithology of their own country, and now there seems to be every chance of this being done. You may be sure that I shall watch the movement with the keenest interest, and that my very best wishes attend the development of the newly-hatched nestling."

Mr. Frank Fay (Melbourne) sends clippings from English files on the "Migration of Quails."

Mr. Henry Holroyd (Tarlee, S.A.): Received a note on the incubation of the Emu.

Articles—"English Birds in Tasmania," by F. M. Littler (Launceston); and "Notes on Various Birds Found in Tasmania," by Col. Legge (Hobart), will appear in the next issue.

NOTE.—Rockhampton, 29th November.—"To-day a small flock of that rare visitor, the Spine-tailed Swift, was seen high up above the Fitzroy River at Lake's Creek, hawking insects. In company with them were a few Dollar Birds. Two Swifts were seen on the following days."—WILL. M'ILWRAITH.

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"Birds of a feather."

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AUSTRALASIAN ORNITHOLOGISTS' UNION.

CO-PATRONS:

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DR. C. RYAN, AND DR. G. HURST.

OBJECTS, &c. - - -

 THE objects of the Society are the advancement and popularisation of the Science of Ornithology, the protection of useful and ornamental avifauna, and the publication of a magazine called *The Emu*.

The business of the Society shall be conducted by a Council consisting of a President, two Vice-Presidents, Secretary, Treasurer, two Editors of *The Emu*, and four members; each office-bearer and member of the Council shall retire at the end of each financial year, but shall be eligible for re-election.

The Annual Meeting shall be held in the capital of one or other of the different States, such capital to be decided at the previous Annual Meeting.

Every member shall be required to pay an annual subscription of fifteen shillings, due on the first of July each year.

The offices of the Society shall be at the office of the Hon. Secretary of the Society for the time being, or at such other place as the Council may appoint.

Notes on Various Birds Found in Tasmania.

BY COL. W. V. LEGGE, F.Z.S., &C.

1. STRIX CASTANOPS (Gould), Chestnut-faced Owl.

This species, whose eggs are stated in Campbell's "Nests and Eggs of Australian Birds" to be undescribed, breeds in Tasmania in the early part of November. Mr. Eric Kermode, of Mona Vale, one of our best-known egg-collectors, informs me that some years ago he and some brother collectors were taking a Goshawk's nest, and hard by stood a smooth, dead bole of a gum tree, from which all the upper part had fallen away, leaving an open funnel top. The noise alarmed one of these owls, which flew out of the "funnel," and was evidently breeding. So smooth and slippery, without any outstanding "points," was the bole that all attempts to get a rope over it failed, and the eggs remained undiscovered. It is not an abundant species in the island, but widely distributed, inhabiting, no doubt, as nocturnal birds do, many parts where it continues to be unobserved. I have seen it in the ranges above Falmouth, and it is met with in the north-east, while in the comparatively open country in the midlands Mr. Kermode tells me it used to be not uncommon.

2. CRACTICUS CINEREUS (Gould), Grey Butcher Bird.

This is a familiar bird in Tasmania about homesteads where there are many trees. The name "Derwent Jackass," referred to in Campbell's "Nests and Eggs," is not a well-known appellation in the island, the common name for the bird being the "Jackass" simply. It is a favourite bird with the farmers for caging, on account of its whistling propensities and grotesque manners in confinement. In the breeding season it is a most noisy denizen of one's plantations, choosing the tall *Pinus insignis* for nesting in, building in its upper branches, and taking charge of the surrounding grove by keeping off the Parrots and "Miners" from the proximity of its brood. A nest some years ago was blown out of a high pine at my house, and its contents, two young birds, tumbled out into the surrounding herbage; they were found and deposited in the nest, which was placed in the fork of a willow, where the old birds continued their care of them until the nest was again blown out of its resting-place, and the young fell victims to the cats. Three is the usual clutch of eggs, occasionally two only are laid. They are "regular" ovals in shape, and usually pale olivaceous, the markings of pale brown being much washed out and, in some, clouded into confluent patches at the larger end. The breeding season is October, during which, and the following months, the "Jackass's" loud and melodious call-notes are the most familiar sounds about Tasmanian homesteads, and last into late evening after all birds but the Magpies have retired to roost.

Cracticus cinereus is a true "Butcher Bird" in its habits, and has apparently the same propensity for "spitting" its prey on thorns as its English namesake, which, however, is a true Butcher Bird (*Lanius*). I base my belief on finding a few years ago a freshly-killed Blue Wren (*Malurus gouldi*) "spitted" on a large sweetbriar thorn in a hedge close to a grove of trees frequented by the Butcher Bird.

3. EPHTHIANURA ALBIFRONS (Jard. & Selb.), White-fronted Chat.

This interesting little bird is a marked illustration in Tasmania of an exodus of certain species alluded to by Gould so many years ago. Climatic influence—great droughts, prevailing heavy rains, or sudden storms, and the like—cause, no doubt, those movements which locate species in a district or province wherein they were never before observed. In his "Handbook" the author in question states that the *Ephthianura* is not found in Tasmania, though common in the Strait islands. That it should not, therefore, be found on the north coast (so far as I can ascertain) is remarkable, for its first appearance, as recorded, was in the Sorell district, not far from Hobart. It was noticed there in the seventies, and from thence extended gradually to the midlands and along the east coast. About fifteen years ago it was first seen in the Ross district, and is now more abundant perhaps in the gorse flats in the valley of the Macquarie than anywhere else. To reach this part of the island it had high ranges to cross, probably taking in the flat lands above the Derwent, at Bridgewater, in its migration, for there it has for many years been firmly established. It delights in the gorse-covered paddocks on the Macquarie, and in the breeding season every little isolated patch has its pair, with the young troop accompanying them, the male bird uttering its peculiar, lonely little note—"Pianng"—by way of warning to its brood.

Some eight years ago it appeared as far north as Falmouth, on the east coast, having no doubt reached there by way of the open littoral tract of country from Spring Bay past Swansea* to the north, along which it also occurs. How far north of Falmouth it has settled down I do not at present know. In this locality it frequents the sand-dunes, open shore paddocks, raised pebble reaches, &c. It may be seen close to the tide-line, flitting from boulder to boulder, and darting up several feet into the air at passing flies and insects. In the Bridgewater district it has the same habit of frequenting the borders of the Derwent estuary, where there are reedy and rushy flats instead of the open grassy "dunes" of the east coast. The habits of this Chat are most interesting. During the breeding season, when the female is aroused from its nest it flies to the ground, and with extended and fluttering wings runs and tumbles along

*Or perhaps followed the coast down from Bank Strait.

in the quaintest manner, trying by its gestures as a wounded bird to lead the traveller from its nest. It not only does not shun the presence of man, but rather courts it, as I have observed it on several occasions in the middle of the military camp at Ross, picking about near the tent openings in the most fearless manner, and at others frequenting the horse lines; and once I saw a pair hopping about beneath the leading horses of a gun team while I was inspecting the "battery." In the Ross district it nests in the gorse, building about one or two feet from the ground, its nest sometimes being quite devoid of concealment. On the coast the nest is usually placed in the top of a dead tussock of "cattle grass," and is composed of dry grass of the colour of that surrounding it. The structure is a compactly though somewhat loosely made cup, lined firmly with fine dry roots and a few fern hairs, a tuft of cattle hair sometimes forming part of the bottom of the cup. In the swamps on the Derwent I have found the nest in rushy grass as low as six inches from the ground, and observed in it dried swamp plants mixed with the grass and bents of the outer structure. The dimensions of the cup are from $2\frac{1}{2}$ to $2\frac{1}{4}$ inches in diameter by about $1\frac{1}{2}$ inches deep. On the Cullenswood estate, St. Mary's—an upland plateau—where it has appeared only since two years ago, my son, Mr. R. Legge, found a nest in the top of a dead "sagg," perfectly exposed to view; it was there also constructed of dry "cattle grass." It builds in August and September, full-grown young birds being seen about with the parents in the middle of October. Three to four eggs, but mostly the former, are the clutch in this country. They vary in shape, some being stumpier than others, the longer ones, too, being sometimes flat-sided (viewed in plan). The clearly defined brick-red spots occasionally vary in character in the same clutch, taking the form of a zone in some, and in others distributed more evenly round the large end.

I think it probable that the inclusion of this species in the Tasmanian list by Strzlecki was based on his examples procured in the Strait islands, which he explored during his sojourn in Australia.

4. ACROCEPHALUS AUSTRALIS (Gould), Reed Warbler.

The Reed Warbler is a welcome harbinger of spring, and is, one might say, the only connecting link between the songsters of the old country and our far-off southern isle; and yet it is a little-known bird in Tasmania, being very local in its habitat and confined to those rivers and waters which are lined with the lofty water reed. It arrives in the island towards the latter end of September, and soon makes its presence known by its loud and not unmelodious warblings, issued forth from the dense shelter, out of which it is rarely seen, and which are repeated through the night, after the habit of its congener in

England, *A. streperus*. This Warbler was first noticed in the midlands, not being enumerated in the earlier lists of Tasmanian birds. It is plentiful in the great reed-beds in the North Esk between Launceston and St. Leonards, but is seldom visible, and its existence unknown to all who are unacquainted with its notes. In the south it is rare. If the northerly range of the species is correctly given by Wallace as Lombok, the inference is that it must winter in North or North Central Australia, and there frequent the great reed-beds which probably exist on some of the northern rivers. Its existence there may easily have been overlooked by collectors, as it often is in the south, owing to its skulking habits.

Both the Australian Reed-Warblers, though among the largest of the genus, are smaller than the two Asiatic species and the African and European bird, *A. turdoides*. The Indian Reed-Warbler, *A. stentorius*, judged by 12 specimens from India and Ceylon examined by myself, measures in the wing 3.1 to 3.55 inches. The European bird, with a more pointed wing than the aforementioned, measures 3.7 to 3.9 inches. The East Asian species, *A. orientalis*, measures 3 to 3.5 inches. The Australian Warbler has the wing 2.7 to 3 inches in length (Cat. B. Brit. Mus., vol. v.) It is worthy of remark, in connection with the singular habits of this genus, that the existence of *A. stentorius* was overlooked in Ceylon until discovered by myself in no less a public spot than the reeds in the old ditch of the Dutch Fort at Jaffna. Once its note was familiar I found it easily in various tanks and swamps in the northern and south-eastern parts of the island, where it was breeding and a resident, though only recorded as a visitor to the plains of India, from which in the ordinary course it should have been a visitor to Ceylon! As illustrative of the habits of this interesting bird, the following extract is from my account of it ("Birds of Ceylon," p. 552):—"The tank which I have mentioned above as being one grown with enormous rushes in the dry season, abounded with these Warblers in the month of June. Shortly afterwards it was burnt by herdsmen for feed for their cattle, leaving nothing but a few solitary clumps of reeds standing amidst the blackened waste. When I visited it, no sign of a Warbler was anywhere to be seen. Blue Coots and Water-hens were moping about at the edge of the only remaining sheet of water, and a few of the handsome Water Pheasants (*Hydrophasianus chirurgus*) 'scudded' along the Lotus leaves as I approached. None of these I wanted, and was about to turn my back upon the wild scene, when a flock of Weaver Birds (*Ploceus*) flew across the open and settled on one of the reed clumps, when immediately out sallied one of my looked-for Warblers, and chirped defiance at the strangers, which was the signal for further notes almost in every little oasis of vegetation. On my trying to dislodge them from their strongholds, they retreated to the base of the

reeds, and no amount of shouting or stone-throwing, and in some cases of stamping even on the rushes, sufficed to flush them. It was only by setting fire to the almost impenetrable cover that I succeeded in getting a shot. At Toparé tank they were constantly on the wing, and very noisy, and I had ample opportunity of observing their animated movements, although I could not get a shot at them. I found the food of the specimens I procured at various times to consist of small flies and minute insects."

5. *LOBIVANELLUS LOBATUS* (Latham), Spur-winged Plover.

This species furnishes an illustration as regards Tasmania of internal migration or "exodus" in the southern parts of Australia. Though recorded as inhabiting the island many years ago, it was a rare bird until the "eighties." After the great drought on the continent, 1888, it was observed here and there in the midlands, the great Plover district of Tasmania. It gradually increased about Ross and Tunbridge, where the flat lands, salt-pans, marshes, and undulating open sheep-runs provided it with a suitable home. It is now about as numerous as the Black-breasted Plover, for it is seldom shot, owing to its wariness and the poor quality of its flesh, and flocks of fifty may be met with after the breeding season when the young have "packed."

In 1892 a pair appeared on my estate at Cullenswood, on the Break-o'-day Plateau, where the species had never been seen before. It had evidently begun to migrate outwards from the midlands. In 1895 it had thoroughly established itself, having taken up its quarters about a large lagoon, where it bred every year, and is now abundant in the district. The mysterious art of "protective resemblance" appears to be connected with the economy of this species and the Black-breasted Plover, and is illustrated in the remarkable variation in the colour of their eggs. If nests are found situated on ground or about vegetation of varied colour the eggs will be found in sundry instances to correspond in a remarkable manner with the coloration of their environment. Two or three seasons ago I visited, in company with my son, Mr. R. W. Legge, who is a keen observer, several nests of these species, situated in and about the lagoon above-mentioned, which was then in a dry state. The ground colour of the eggs varied in each, and exactly resembled the material round the nests. It was most observable in the case of a "Spurwing's" nest formed on some dry, yellowish rushes and dead grass, and in which the eggs were of the exact murky stone-colour of the dead vegetation. Two nests of the Black-breasted Plover illustrated the same peculiarity in a very marked manner.

The egg shown in Campbell's "Nests and Eggs" is remarkably green, and was probably taken from a nest situated near green herbage.

Notes on a Collection of Bird-Skins from the Fitzroy River, North-Western Australia.

BY ROBERT HALL.

With Field Notes by the Collector, J. P. ROGERS.

PART I.

MY correspondent, Mr. Rogers, commenced collecting specimens of birds in the Derby district in November, 1899. He is still doing so. In that period 405 well-preserved skins have been forwarded to me for identification and report. These now form part of my collection. Among them are many choice species new to the north-west of the continent, one entirely new to Australia, two species new to science, a large number of young birds not previously described, many new phases, and new nests and eggs.

My wish to always secure young birds and birds of changing plumage has been agreeably responded to. And now it is my pleasure to place on record the decided interest of this young and new observer and collector in the field of natural science. We may safely take it that he has done well and formed a good beginning. One example of enthusiasm I gather from his letter of 15th March, 1901:—"To-day I reached Derby after a rough and tiring time. My walk of 80 miles was without the company of even a horse. To carry a gun, collecting material, and my swag proper in a hot and steamy atmosphere was not an easy task."

The latest collection* made in the North-West was by the Calvert expedition in 1897. The number of species brought back was 59 and specimens 167. The most important collection made to the time of the present one was by Mr. T. H. Bowyer-Bower† in 1886. It numbered 152 species, and was gathered within a radius of 25 miles of Derby. It serves well as an enumeration of species.

The collection under present review is being made between Brooking Crossing on the Fitzroy River (some 200 miles from Derby) and the township of Derby. The opportunity to make sub-species out of this material is indeed tempting. However, I justify myself with declaring them hitherto undescribed phases until a medium such as that of natural selection makes more pronounced the progress to warrant other rank.

While it is not necessary at this stage to refer to absentees from the present list, it is pleasing to note some birds which, to the best of my knowledge, have not been previously recorded as found in North-Western Australia, viz.:—

Rhipidura phasiana, De Vis, Pheasant Fan-tail.

* Roy. Soc. S. Aust., vol. xxii., part ii. (1898), p. 125.

† Ramsay, P.L.S. N.S.W., vol. i., 2nd Series, p. 1,085 (1886); *id.*, *op. cit.*, vol. ii., 2nd Series, p. 165 (1887).

Pachycephala melanura, Gould, Black-tailed Thickhead.

Malurus assimilis, North, Purple-backed Wren

Eopsaltria pulverulenta, Bonaparte, White-tailed Shrike-Robin.

Pseudogerygone tenebrosa, Hall, Dusky Fly-eater.

Collyriocinclla pallidirostris, Sharpe, Pale-headed Shrike-Thrush.

Mirafra secunda, Sharpe, Lesser Bush-Lark.

Eremiornis carteri, North, Carter Desert Bird.

Lophophaps plumifera, Gould (if a species), Plumed Bronzewing Pigeon.

Poephila nigropecta, Hartert, Black-rumped Grass-Finch.

Munia castaneithorax, Gould, Chestnut-breasted Finch.

Helodromas ochropus, Linn., Green Sandpiper.

Ægotheles rufa, Hall, Rufous Nightjar.

In addition to the above 13 species, others forming this collection were recorded in the *Victorian Naturalist*, vol. xvii., No. 4, p. 62 (1900), for the first time as found in North-Western Australia. The dates appended to specimens refer to times collected. The observations of Mr. Rogers are placed in square brackets.

I. CHLAMYDERA NUCHALIS (Jardine and Selby), Great Bower Bird.

Chlamydera nuchalis, Gould, Birds Aust., fol., vol. iv., pl. 9 (1848).

Chlamyadocera nuchalis, Sharpe, Cat. Birds Brit. Mus., vol. vi., p. 391 (1881).

To hand are two adult male skins without lilac napes, and dated 10th and 26th March, 1900. One of the specimens has a single lilac feather beneath the dull grey plumage. The same bird is moulting its old feathers upon the head and obtaining new ones.

One adult male skin, in addition, received—no data.

One young female, 18/10/01. Briefly it may be recognized by its whole appearance being more grey, silvery almost, than in the adult; feathers of back, wings, and upper tail coverts more largely tipped with a whiter grey than in adult; tail quills broadly tipped with white; whole under surface below (the chest included) clearly barred; head and neck almost uniform grey; bill (except at extreme point) uniform dark brown; wing 6.5 inches.

[Irides bluish-grey; bill dark brown, tip horn colour.]

[I am camped in a gorge at the foot of the Grant Range, some 3 miles from Livuringa station. Ten yards from the tent is a huge bower. Each morning a large number of this species visit it at the same time. I counted ten birds. The birds are now leaving the river (28/2/00), and the bowers have assumed quickly a ragged appearance. I am of opinion they are leaving the river for breeding purposes. A few days later than making this note I again visited the river to see if the birds were still there. I found they had all left, and the bowers had fallen as

if they had been deserted for months. To-day (8/6/00) I saw a male bird pulling a bower to pieces. He took each twig in his beak and dragged it out. At the pulling away of the bower he worked for nearly an hour.

On 27th December, 1899, I found a nest and egg. The nest was placed about 12 feet from the ground in a baubinia tree. The bird was very shy, and, although I watched the tree, I only saw the bird go on to the nest once; but it was always on the nest when I visited the tree. She used to slip off silently and hop and fly away on the side that had the tree between us. External dimensions of the nest, 10 x 10 x 5½ inches; internal dimensions, 6 x 5½ x 2½ inches. The egg could be seen through the nest from the ground. The nest was loosely constructed of coarse twigs, lined with fine baubinia twigs. The bower within a few yards of my present camp is still frequented (31/12/99) by a large number of birds. They come about 6.30 a.m. and stay some 30 minutes. In the evening they return for one hour, just prior to sunset. They have the bower built under a small "freshwater" mangrove, the leaves of which are falling at present each morning in great numbers. The leaves that have fallen during the night are picked up one by one and carried away in their beaks, going all the time with a peculiar sidling dance motion. With the heads turned on one side they look very knowing.

In a place known as Fourteen-Mile Gorge they are still very plentiful (13/1/00), and may often be seen in the small caves of the sandstone hills. Here I saw a black bird with a yellow eye, and it reminded me of a Satin Bower Bird. To-day I shot a male bird hardly in moult (16/1/00).

On 9/3/00 I noted that some few birds were on the river again, but the majority were still in the hills. On 8/4/00 I saw a large number at a bower. One male in full plumage spread out the pink ruff on his neck until the feathers resembled a widely-extended fan, almost forming a circle.

What appears to be the male bird (judging by the plumage) plays for hours with bones, &c., at one end of the bower, uttering strange noises. One resembles a piece of silk while being crumpled and shaken. The usual call is a harsh and scolding one. The female is much quieter, preferring to hop quietly about or sit in a bush.]

2. MALURUS DORSALIS (Lewin), Red-backed Wren.

Malurus browni, Gould, Birds Aust., fol., vol. iii., p. 27 (1848).

Malurus dorsalis, Sharpe, Cat. Birds Brit. Mus., vol. iv., p. 296 (1879).

Fifteen skins have been received, of which eleven are males and four females.

Of the males seven form a most interesting series, and show the order in which the red appears, as illustrated in the skins *a to g*.

The moulting of the quills is effected between May and August, according to four skins (*e*, *f*, *h*, and another). In July Mr. Rogers observed several small troops without any red bird amongst them. The young male, young female, and adult female bear a likeness to each other.

a. Young male, 15/8/00. No sign of red. Uniform brown above, creamy white below; bill, legs, and feet pale nutty-brown; irides ashy-grey. Length of tail, 2.5 inches.

b. Young male, 1/8/00. Similar to *a*; much smaller tail; a few pale red feathers appear near the shoulders and on the back.

c. Young male, 25/2/00. Similar to *b*. In addition to about the same quantity of red upon the back as in *b*, there is a small break of black upon the chest. Bill slightly darker than in *b*.

d. Young male, 28/3/00. This specimen is undergoing a moult of all but the quills. The red of the back is nearly complete, but the colour is bright crimson. The first of the black upon the ventral surface takes the shape of a pectoral collar with odd "blacks" on the throat sides; crown and sides of face show about half black and half brown feathers; bill deep brown to blackish-brown. About midway between youth and maturity. [Irides ashy-grey; legs and feet fleshy-brown.]

e. Immature male, 18/8/00. General appearance very woe-begone; the act of moult showing three strongly contrasting colours, the bird having the dense black of the adult, the grey of the young, and red. Every part of the body shows the transition stage—as, for instance, the tail quills are partly long and brown and partly short and black; also the wing coverts, the head, and whole under surface. [Bill brownish-black; irides greyish.]

f. Immature male, 24/7/00. This is a stage in advance of *e*, with a more orderly appearance in its plumage; bill blacker; red of back not yet so intensely crimson as in *g*, the adult.

g. Adult male, 24/7/00. The last trace of moult into perfect stage is shown in the barrels of the smaller tail quills. Back deep crimson; bill jet black.

The specimens marked *h* and *j* are females, showing the tail quills to be moulting on 3/3/00 and 14/5/00.

On 7/1/00 Mr. Rogers found this species to be a foster-parent to the Narrow-billed Bronze Cuckoo (*Chalcococcyx basalis*, Horsfield).

According to adult male skins received up to June, I find a moult of the red is effected in this species of the Red-backed section of *Malurus*.

[Prior to August I have seen many flocks without one bird showing any red, except on one occasion when in the long grass I saw an adult male with the "red" much faded and abraded (15/6/00). On 23rd August, 1901, I saw the first coloured male of the season. When feeding among fallen leaves of freshwater

mangroves the birds disappear from sight as they burrow among the light leaves, which lie very loosely and curl up when they fall.

To-day (26/12/00) I saw five adult males fighting for the possession of two females. They took no notice of myself. The red upon the backs was of two shades, light and dark.

On 3/3/00 I shot a female showing two pale red feathers under the left wing. On 24/7/00 I secured a young male with red and a few brown feathers. With regard to nesting, I have found nests with each two eggs on 4th and 9th January. Mr. Douglas, who accompanies me, at times has found clutches of four eggs. One nest I found in spinifex, two feet from the ground of a rocky ridge. It was made of grass and small pieces of wool externally.* As I approached it the female left. One nest measured 5 x 4 x 4 inches, a second 3 x 4 x 3 inches. On 7/1/01 I found a nest with a side entrance instead of the usual top entrance.]

3. MALURUS CORONATUS (Gould), Purple-crowned Wren.

Malurus coronatus, Gould, Birds Aust., fol., vol. suppl., pl. 20 ; Sharpe, Cat. Birds Brit. Mus., vol. iv., p. 295 (1879).

Three skins to hand—

a. Adult male, 22/8/00.

b. Immature male, 22/8/00.

c. Adult female, 22/8/00.

[b. Irides brown ; bill brown ; corner of mouth white ; legs and feet leaden-grey.

I showed these skins to a black boy who resides up the river. He says they are always found in the billabongs high up the Margaret River, a tributary of the Fitzroy, and about 150 miles from here. A black boy from the coast to the north of Derby did not know the species. I got the specimens in dense long grass, and found them very shy.

When feeding it searches amongst dead leaves upon the ground, upon which I found it feeding. It rapidly hops and occasionally flies a few paces when feeding. It also takes insects, like Fly-catchers, upon the wing. On 7/11/00 I noticed two males and one female. The female securing a large grub, the duller of the males immediately followed her, and, watching his opportunity, secured one end of it. After a tug for mastery during 30 seconds he robbed her and flew away. A few seconds later the finer-plumaged male was preening her feathers.]

3A. MALURUS ASSIMILIS (North), Purple-backed Wren.

Malurus assimilis, North, Vict. Nat., vol. xviii., No. 2, p. 29 (1901).

Adult male, 2/11/01.

* Compare "Nests and Eggs of Australian Birds," Campbell, vol. ii., p. 179 (1900).

4. PETRÆCA PICATA, Gould (sub-sp. of *P. bicolor*, Vig. & Hors.), Pied Robin.

Melanodryas picata, Gould, Birds Aust., Handbook Birds Aust., vol. i., p. 285 (1865).

Petræca picata, Sharpe, Cat. Birds Brit. Mus., vol. iv., p. 174 (1879).

a. Adult male, 28/12/00. Breakaway.

b and *c.* Adult females, 31/8/00 and 28/12/00. Breakaway.

That which is said to distinguish this sub-species from the species is a doubtful quantity.

Specimen *a* has not the usual dense black plumage. It is blackish-brown and brown rather than black on the forehead. The wing and tail quills are brown.

5. RHIPIDURA PHASIANA (De Vis), Pheasant Fan-tail.

Rhipidura phasiana, De Vis, Roy. Soc. Queensland, vol. i., p. 158 (1884).

a and *b.* Adult males, 27/6/01.

c. Immature female, 18/3/01.

d. Immature skin, 27/3/01.

Young (skins *c* and *d*).—There is no lower throat black band, merely a trace of it dividing the white from the orange-brown. The white markings on wing coverts are larger than in adult birds; less white upon the tail; superciliary mark grey; upper surface of body grey, the tail being blackish-brown, nearly as in adult.

6. SISURA NANA (Gould), Little Fly-catcher.

Sisura nana, Sharpe, Cat. Birds Brit. Mus., vol. iv., p. 408 (1879).

a. Adult male, 6/7/01.

b. Immature male, 2/3/01.

c. Adult female, 2/7/01.

There is merely a faint trace of orange-brown upon the chest of *a*, while in the immature bird, *b*, there is a distinct patch of it. In *c* the chest, a portion of the throat, and breast are richly flushed with orange-brown.

Immature Male (b).—Lores brown; quills of tail and wings brown and black, the black quills being the new feathers; thighs ruddy-brown; black feathers of chin and throat scarcely developed. [Irides dark brown; base of upper and two-thirds of lower mandible leaden-blue, balance of upper and lower black; legs bluish-black; feet black.]

[A nest was placed in a eucalypt by the river, some twenty feet from the ground (1/2/01.)]

7. MYIAGRA LATIROSTRIS (Gould), Broad-billed Fly-catcher.

Myiagra latirostris, Gould, Birds Aust., fol., vol. ii., pl. 92 (1848); Sharpe, Cat. Birds Brit. Mus., vol. iv., p. 381 (1879).

One adult male (25/8/00) and one adult female were received.

[When on the wing it takes an insect and returns at once to a branch. When there it continuously and rapidly shakes its tail.]

8. *MICRCECA PALLIDUS* (De Vis), Pale Fly-catcher.

Micrceca pallida, De Vis, Proc. Roy. Soc. Queensland, vol. i., p. 159 (1884).

a. Fledgling male, 11/3/00.

b. Young female, 5/7/00.

c. Immature female, 4/7/00.

d to *h.* Adult males, collected in February, July, and August, 1900.

j. Adult female, 26/7/00.

Excepting the fledgling there is a uniformity of markings and colour over all. Even the young birds moult quickly their nest plumage, and go at once into a strong likeness to the adults, male and female.

Description of Young Male (specimen *a*).—Upper surface bears a striped appearance of white upon ruddy brown. These white marks, from the forehead to the upper tail coverts included, are upon the middle portions of the terminal half of the feathers; the nuchal collar is nearly white; central tail quills uniform brown, lateral pair creamy white, except at base of penultimate one, which is deep brown; whole under surface whitish, with brown spots, indefinitely placed; under tail coverts white; loreal spot white; ear coverts brown with white barbs; wings brown, deep on quills and light on coverts, which are edged creamy white, especially the inner secondaries; tips of spurious wing fawn, under wing coverts fawn; length of wing, 3.15 inches. [Bill brown, lower mandible paler than upper; corners of mouth white; irides brown; legs and feet bluish-grey; soles of feet yellow].

The young female (*b*) is mainly distinguished by having a frontal tawny mark instead of the white forehead of the adult, while in *c*, a more advanced female, the ear-coverts, sides of face, and forehead are tawny.

[This bird is generally found in lightly timbered country. In the back yards of Derby township there is generally one pair to be seen.]

9. *PACHYCEPHALA FALCATA* (Gould), Northern Thickhead.

Pachycephala falcata, Gould, Birds Aust., fol., ii., pl. 68 (1848); Gadow, Cat. Birds Brit. Mus., vol. viii., p. 205 (1883).

Eleven skins are to hand, of which seven are males and four females.

The plumage development of the species is quite different from *P. gutturalis*.* Whereas it is difficult to recognize any one of three stages of *P. gutturalis* as belonging to the same species,

* Proc. Roy. Soc. Vict., vol. xiii., New Series, part i., p. 19 (1900).

especially the fledgling and adult, these latter in *P. falcata* are clearly held together by an intermediate link associating the two extremes. Judging by two good illustrating specimens, the pectoral collar at first appears to be a grey one, which alters its pigment into brownish-black without a moult. A moult following makes the collar a dense black one.

The young male, the young and adult females bear a likeness to each other. The breast-streaks of the young are retained in the male until the pectoral collar appears as in *c*, or the black streaks indicating youth are lost, by change of pigment, just as the pectoral collar appears (*e.g.*, *b*).

a. Young male, 21/8/00 (Cat. Birds Brit. Mus., vol. viii., p: 205).

a'. Young female, 24/8/00. The brown bill indicates youth, and, excepting the ear coverts and orbital region, which are ruddier, it appears to differ very little from the young male *a*. The throat of *a* is whiter.

b. Immature male, 13/8/00. A pale tawny wash is clearly seen upon the mostly white throat, which is distinct upon this specimen alone. The pectoral colour is superficially grey, with a black ground. This is owing to much of the peripheral and exposed portion of each black feather being grey. Lores and ear coverts very little greyer than adjacent grey parts. Black streaks of breast almost obsolete. [Irides reddish-brown; bill black; legs and feet brown].

c. Immature male, 28/8/00. The principal differences between this and an adult male are that the immature bird retains deep brown streaks upon its white throat and its rufous breast. The edges of some of the pectoral band feathers are still grey, and the ear coverts also are grey. [Irides reddish-brown; bill, legs, and feet black.]

d. Adult male, 27/2/00. The tendency of the male, when compared with its close ally, *P. rufiventris*, is to restrict the width of the black colour on the sides of the neck and to brown the black ear coverts. In no other respect do the males of the two species appear to differ.

e. Adult female, 24/8/00.

[This species is very animated. A male is singing to his mate before me now (2/2/01), with tail and wings extended, feather on crown of head raised like a crest, and body feathers ruffled outwards. The bird's body seems to tremble through the power of the whistling note it is uttering—a note much more powerful than is usual. The male bird's head was within one or two inches of his mate's all the time. On 1/8/00 I found one of a pair building a nest. Visiting this nest a few days later I noticed it was still unfinished, and many feathers of the builder strewn about it. A hawk had probably eaten it.]

10. *PACHYCEPHALA MELANURA* (Gould), Black-tailed Thick-head.

Pachycephala melanura, Gould, Birds Aust., fol., vol. ii., pl. 66 (1848); Gadow, Cat. Birds Brit. Mus., vol. viii., p. 185 (1883).

- a.* Adult male, 19/3/01.
- b.* Young male, 19/6/01.
- c.* Adult female, 22/3/01.
- d.* Young female, 23/7/01.

a specimen was moulting, at this date, its tail quills.

b. *Description of Young Male*.—Three phases of a young male have been described in the Brit. Mus. Cat., vol. viii. This is a fourth, resembling very much an adult female. Lores fawn; rump grey, as on the back, no greenish-yellow hue on either region, as in adult; outer secondaries broadly edged with rufous; abdomen more white than in adult; under tail coverts lemon-yellow; upper tail coverts greenish-yellow; tail pale greenish-yellow. [Bill brown; base of lower mandible and cutting edges of both greyish-brown; angle of mouth whitish; irides light reddish-grey; legs and feet blue-grey].

Young Female (d).—It has traces of its rufous stage. The primaries are rufous, and their coverts particularly so; upper and under tail coverts mostly rufous; upper surface grey; under surface creamy, with throat and chest marked horizontally with pale greyish-brown spots; irides reddish-brown; bill brown, base lower mandible grey, also cutting edge; legs and feet bluish-grey.

[It has a note similar to, but less powerful than, the previous species. It keeps very much to mangrove vegetation, searching much among the *débris* left by the tides. It may search for insects head downwards when among the branches, but the position has not the grace of that of a Honey-eater.]

11. *PACHYCEPHALA LANIOIDES* (Gould), White-bellied Thick-head.

Pachycephala lanioides, Gould, Birds Aust., fol., vol. ii., pl. 69 (1848); Gadow, Cat. Birds Brit. Mus., vol. viii., p. 224 (1883).

- a* and *b.* Adult males, 22/3/01.
- c* and *d.* Adult females, 21/3/01, 23/3/01.

For description of skins *c* and *d* see *Vict. Nat.*, xviii., No. 2, p. 30.

12. *EOPSALTRIA PULVERULENTA* (Gould), White-tailed Shrike-Robin.

Eopsaltria leucura, Gould, Birds Aust., Suppl., fol., vol. v. (1865).
Pacilodryas pulverulenta, Salvad., Ornith. Papuas e Molucc., vol. ii., p. 88.

Eopsaltria pulverulenta, Gadow, Cat. Birds Brit. Mus., vol. viii., p. 180 (1883).

- a* and *b.* Adult males, 19/3/01 and 27/3/01.
- c.* Adult female, 19/3/01.

All are moulting. *a* has its new tail quills, but the crown and forehead feathers are old and very much decomposed. *b* has its new forehead and crown feathers, but the tail quills are only about half grown. They are jet black, while the still remaining quills are brown with age.

Mud is upon the bill of each, because of the habit the bird has of foraging upon the muddy mangrove stems. [These birds I have never seen unassociated with the mangrove flats. All birds found among the mangroves appear to forage upon the mud, and have dirty bills.]

13. *PÆCILODRYAS CERVINIVENTRIS* (Gould), Buff-sided Robin.

Petroica cerviniventris, Gould, Birds Aust., fol., supp., pl. 15 (1869).

Pæcilodryas cerviniventris, Sharpe, Cat. Birds Brit. Mus., vol. iv., p. 242 (1879).

a. Adult male, 2/12/00. Breakaway.

b, c, d. Adult females, 2/12/00. Breakaway.

e. Adult female, 1/8/00. Breakaway.

f. Young male, 2/12/00. Breakaway.

The flanks of adult male and female (sexes alike) are strongly marked with a very pronounced tawny-rust colour.

Description of Young Male.—It has a striking appearance when losing its rusty-coloured plumage for one similar to, if not exactly like, that of an adult. The quills have the conspicuous white bands, with a splash of tawny about the brown edges of centre tail feathers and wing quills. Excepting the white marks upon the sides of the throat, the whole of the head, neck, throat, and breast show the previous stage to have been rusty-rufous; white feathers show through the lores and eyebrows; blackish-brown feathers appear in advance upon the rusty forehead, crown, and hind neck; grey feathers are as much in evidence upon the upper portion of the breast as rusty-coloured ones are; the tawny-rust flanks are paler than in adult; wing, 3.15 inches. [Bill brown, cutting edge horn colour; corner of mouth white; eyelids dark flesh colour; feet and nails grey; legs darker grey than feet.]

Mr. Rogers noted (2/12/00) that both knees were covered with parasites of an orange-yellow colour.

[In the thick growth of a bank of the river I collected and heard the calling of the birds (1/8/00). The notes were two clear whistling calls repeated rapidly nine or ten times, during which the motions of the bird resembled those of a Dove, bowing its head and raising its tail. This latter was extended at every call. The white of wing is conspicuous when the bird is sitting.

On the 8/12/00 I saw an adult feeding a young Cuckoo. It appeared to be of the Black-eared species, a skin of which has already gone forward. I did not secure the young Cuckoo. At 3 a.m. to-day, 9th December, I heard the call of a Cuckoo.]

14. MYZOMELA PECTORALIS (Gould), Banded Honey-eater.

Myzomela pectoralis, Gould, Birds Aust., fol., vol. iv., pl. 65 (1848);
Cat. Birds Brit. Mus., vol. ix., p. 138 (1884).

Eleven specimens have been received—nine males, two females.

Six of the males show distinct phases in the plumage development from the time of nest quittal to adult age. It is remarkable that the youngest has rich saffron-yellow ear coverts, which are quite lost in the adult, and that the uniform rufous back of the youngest gradually gets to a dense black by change of pigment. The rachis as in *a* is rufous, in *b* it shows a narrow black line, in *c* a broader one, in *d* a much broader one, while in *e* the rufous has almost been displaced by dense black. In the moult following black feathers appear without rufous.

The young of *Glycyphila fulvifrons* also displays a prominent patch of yellow (throat). In this respect they stand as remarkable cases.

The principal points of interest in these six male birds are:—

a (24/5/00). Fully-fledged nestling. Ear coverts rich yellow; dull cinnamon pectoral band; under surface creamy-white, with flush of pale yellow on upper throat; head, neck, and back cinnamon-coloured, paler on the head; lores black; upper tail coverts white; all quills edged with brown. [Bill and tail blackish-brown; iris brown; corner of mouth yellow; legs and feet dull blackish-brown.]

b (19/6/00). Young recently from nest. Very much as in *a*. The pectoral band is partly black and partly brown. It shows the first indication of the black breast-band.

c (25/7/00). Immature. Midway between *b* and *f*; yellow ear coverts; black pectoral band; head, neck, and back cinnamon-coloured, with numerous rufous feathers with black midribs. The brown quills are being moulted in favour of dense blackness.

d (9/1/00). Immature. This specimen approaches the appearance of the adult. A faint wash of yellow appears upon the ear coverts, and some black feathers of the back edged with rufous brown; head and lores black, not contrasted rufous and black as in previous stages; brown lateral edges to tail quills as in *a*, *b*, *c*.

e (19/9/96). Immature. Ear coverts white as in adult, and 0·5 per cent. of the back feathers showing rufous edges; lateral edges to tail quills black as with other parts; tips of secondaries creamy-white as in previous stages.

f Adult skin. Whole of upper surface varies, strongly contrasted black and white, no cinnamon.

Two specimens of young females, appearing to be the age of *a*, answer to the same description. Date, 25/7/00.

[There is here a eucalypt of low scrubby growth that is honey-laden in the six weeks of its flowering season. It is remarkable for the amount of sweets within the blooms. While this species of bird is feasting continuously among the higher branches the aborigines below are as continuously sucking the flowers for the honey within. It sings well.]

15. MYZOMELA NIGRA (Gould), Black Honey-eater.

Myzomela nigra, Gould, Birds Aust., fol., vol. iv., pl. 66 (1848).
Gadow, Cat. Birds Brit. Mus., vol. ix., p. 138 (1884).

Adult male, 1/2/00; adult female, 25/3/00; and young, 19/1/00.

[It is strange no record (1900) has hitherto been made of the finding of this species in the North-West, because it appears to be very common. The Black Honey-eater perches on the top of a blooming eucalypt, and judging by its motions one would take it to be a fly-catcher fluttering after small native bees which are being attracted by the honey-laden flowers. On opening the stomachs of several I found them crammed with bees, while from each of others a spoonful of honey fell from the bird when it was held downwards by the feet.]

16. PTILOTTIS KEARTLANDI (North), Kheartland Honey-eater.

Ptilotis keartlandi, North, Ibis (1895), p. 340; Report Horn Scient. Exp. Cent. Aust., part ii.—Zoology, p. 93, pl. 6 (1896).

Seventeen specimens, showing six distinct stages in plumage development, and in addition five prominent phases, are to hand.

- a. Nestling female, 23/5/00.
- b. Nestling male, 24/6/00.
- c. Nestling (no sex given), 28/7/00.
- d. Well-developed nestling, 5/8/00.
- e. Young male, 28/7/00.
- f. Young female, 2/2/00.
- g. Young male, —/1/00.
- h. Young female, 1/2/00.
- i. Young male, 11/4/00.
- j. Adult female, 17/2/00.
- k. Adult male, 30/4/00.

In addition to the remarks supplied by Messrs. North and Kheartland in the Horn* and the Calvert† expedition reports, the following may be added:—One adult (j) has a rich yellowish throat, chest, and breast, with only an indistinct trace of lines upon portions of them. They seem to have disappeared with age; yet this specimen has the basal half of the lower mandible pale yellow, with the distal portion nutty-brown, as on the

* Horn Exp. Cent. Aust., 1896, part ii.—Zoology, p. 93.

† Trans. Roy. Soc. South Aust., vol. xxii., pl., part ii., p. 148.

upper mandible. Certain of the tail feathers are also much decomposed, while others are quite new, which shows a moult of a bird lately incubating. *a* to *e* (inclusive) are nestlings with pale yellowish-brown bills and bright yellow gapes; *f* and *g* have the basal half of the lower mandible pale yellowish-brown; remainder black.

The breast of the youngest bird (*a*) is deep lemon-yellow, while the breasts of nine others (all except one), including an adult, are very pale yellow in comparison. The whole under surfaces of the youngest five birds are mealy in appearance. The foreheads and crowns of all but *j* and *k* (adults) are greenish-yellow, and the upper surfaces of all but *j* and *k* are greyer in appearance.

a.—Wing, 2.25 inches. [Irides light blue-grey; cutting edge of bill and basal portion yellowish, distal portion brown; legs and feet fleshy-grey.]

c.—Wing, 2.6 inches. [Irides grey; basal part of bill yellowish, distal part brown; feet and legs fleshy-grey.]

e.—Wing, 3 inches. [Bill nutty-brown, yellowish at proximal parts; feet and legs leaden grey.]

The dates of skins show a wide range in the breeding season of the species.

A clutch of two eggs collected on 4th June, 1900, were zoned and spotted, one to a considerable extent, the broader end being salmon-coloured while the smaller was flesh colour.

[This is one of the most plentiful of Honey-eaters here. They are everywhere. A while ago (prior to 8/2/00) they were feeding upon the mistletoe blossoms, which grow plentifully in a small wattle, but they deserted as soon as the eucalypts came into bloom. On 24/7/00 three nests were found in wattle trees, close together, and all in similar positions—a slender, horizontal fork. A clutch of two eggs I found on 4/6/00. On 29/11/99 I saw a very large number of this species. A well was being cleaned, but only this bird seemed to drink. It was very tame. While standing quietly on the brace-head of the well one alighted upon my hat, and another upon one of my boots. Soon after this I saw as many as fifteen upon the rim of the bucket, and several more hovering over their heads, impatiently waiting their opportunity. I longed for a camera and the knowledge to work it.]

17. *PTILOTTIS LEILAVALENSIS* (North), Lesser White-plumed Honey-eater.

Ptilotis carteri, Campbell, Vict. Nat., vol. xvi., p. 3 (1899).

Ptilotis leilavalensis, North, Rec. Aust. Mus., vol. iii., No. 5, p. 106 (1899).

Adult male and female, 27/1/01.

Immature male, 26/1/01.

The adult female and immature male are moulting. The

adult male has concluded its moult. With the female the two centre tail quills are about two-thirds grown, while the others appear full grown.

In the tail of the immature male there are two ages in quills of the full length, one being dull nutty-brown, the other half being yellowish. Both are very much mutilated. However, the yellowish set is the new one, because there is a single half-grown quill, fresh and yellowish. The bill of the immature specimen is pale brown on the proximal half and deep brown on the distal half. There is a tendency withal to have a brown line at the base of the white patch near the ear coverts, not separating the white from the auricular patch, but with an inclination to do so.

18. *PTILOTTIS SONORA* (Gould), Singing Honey-eater.

Ptilotis sonorus, Gould, Birds Aust., fol., vol. iv., p. 33 (1848).

Ptilotis sonora, Gadow, Cat. Birds Brit. Mus., vol. ix., p. 234 (1884).

a. Adult male, 3/3/00.

b, c. Adult females, 2/2/00 and 2/3/00.

d, e. Young males, 26/3/01.

[Here this is a very shy bird, flying away rapidly when approached, and being difficult to get near. It is generally seen in low scrubby bushes.]

19. *PTILOTTIS UNICOLOR* (Gould), White-gaped Honey-eater.

Ptilotis unicolor, Gould, Proc. Zool. Soc. (1842), p. 136, *id.*; Birds Aust., fol., vol. iv., pl. 46 (1848); Gadow, Cat. Birds Brit. Mus., vol. ix., p. 249 (1884).

a, b. Adult males, 27/2/00 and 9/3/00.

c. Young, unsexed, 10/12/99.

[My experience with this bird is to find it never away from the thick scrub along the Fitzroy River. It is very quiet, so much so that I have never heard its note. It is very fond of the small fruit of the native fig (6/12/00). On 20th September I saw the young of this species. It is very unusual to see the young of Honey-eaters at this time of the year, as it is usual for them to breed in the heavy tropical rains. Where I saw these birds a heavy storm had recently occurred, and possibly that accounts for the diversion.]

20. *PTILOTTIS FLAVESCENS* (Gould), Yellow-tinted Honey-eater.

Ptilotis flavescens, Gould, Birds Aust., fol., vol. iv., pl. 41 (1848); Gadow, Cat. Birds Brit. Mus., vol. ix., p. 245 (1884).

Nine skins, including four males and five females, of which one is a nestling and two are young.

The young are dated 2/2 00 and 20/5/00, and the nestling 1/6/01. While the back of one of the young is in agreement with Mr. North's diagnosis—"Young birds have the upper surface

paler than the adults"—I find the back of another is darker. The basal half of the bill of this latter specimen is dirty yellow.

The adults are dated 14/4/00 and 15/5/00.

Nestling Female.—This bears a general likeness to the adult, excepting the black line separating the ear coverts from the yellow patch beneath, which is brown. The head is quite as bright a yellow as with many of the adults, but in no case is the yellow patch beneath the ear-coverts so clear and strong. [Bill rich brownish-yellow; operculum and tip brown; irides brownish; feet and legs fleshy-grey.]

New nest and eggs described *Vict. Nat.*, vol. xviii., No. 2 (1901).

[About food, the remarks applied to *P. keartlandi*, North, apply also to this species.]

21. *MELITHREPTUS ALBIGULARIS*, Gould (sub.-sp. of *M. lunulatus*, Shaw), White-throated Honey-eater.

Melithreptus albigularis, Gould, Birds Aust., fol., vol. iv., pl. 74 (1848); Gadow, Cat. Birds Brit. Mus., vol. ix., p. 205 (1884).

a, b. Adult males, 26/8/00.

c. Immature female, 27/8/00.

In *a* the tail quills are moulting; forehead and crown black, mixed with grey feathers. [Skin over eye whitish; irides yellowish-red.] Wing 2.5 inches.

In *c* the forehead and crown are black, irregularly marked with grey. In other respects it agrees with the adults.

22. *MELITHREPTUS LATIOR* (Gould), Golden-backed Honey-eater.

Meiithreptus latior, Gould, Ann. Mag. Nat. Hist., 4th Series, vol. xvi., pl. 287 (1875); *id.*, Birds New Guinea, fol., vol. iii., pl. 40 (1875-88).

Four skins received—

a. Adult male, 25/3/00. Under-surface greyish to creamy white. [Irides reddish-brown; legs and feet brownish-yellow; bare patch over eye greenish-yellow.]

b. Adult male, 26/8/00. Similar to *a*, with the lemon-yellow well developed, and under surface pale brownish-grey, tending to creamy-white.

c. Adult female, 25/3/00. Lower portion of the under surface almost pure white, contrasting with specimen *b*. Rich lemon-yellow and soft parts as with *a*.

d. Young male, 26/2/00. [Bill black; basal portion of lower mandible yellow; legs and feet yellow, the soles being bright orange-yellow.] Lower portion of under surface almost white, as in the adult *c*. This indicates the under surface may be whitish, or very similar to *M. gularis*, Gould, if not the same.

[For the first time (4/3/00) I have seen this species in large

numbers—generally in pairs before. While visiting a gorge in the Grant Range I found them in nearly every tree in bloom. Being shy, and flying continuously from tree to tree, I had difficulty in securing the skins for identification. In the trees the yellow back is not so conspicuous as one is led to believe by handling a skin. The only note I heard was a short, rather musical one, with a strange grating sound through it.]

23. GLYCYPHILA ALBIFRONS (Gould), White-fronted Honey-eater.

Glycyphila albifrons, Gould, Birds Aust., fol., vol. iv., pl. 29 (1848);
Gadow, Cat. Birds Brit. Mus., vol. ix., p. 211 (1884).

a, b. Adult males, 11/2/00.

c. Adult female, 11/2/00.

[The stomach of *b* was full of very small beetles (12/2/00). When shot a considerable quantity of honey came out.]

This tends to show the species is an insect-eater as well as a honey-eater, which is so with other members of the *Meliphagidæ*.

23A. GLYCYPHILA OCULARIS (Gould), Brown Honey-eater.

Glycyphila ocularis, Gould, Birds Aust., fol., vol. iv., pl. 31 (1848);
Gadow, Cat. Birds Brit. Mus., vol. ix., p. 213 (1884).

Eight skins to hand—four males and four females, only two being fully adult. One is bleached and olive-brown. Dates of collection—26/1/01, 4/3/00, 14/5/00, 15/7/00.

[The notes are musical. One bird came to a bush near my camp (4/2/00), and sang at intervals for a few minutes.]

24. ENTOMOPHILA LEUCOMELAS (Cuvier), Pied Honey-eater.

Melicophila picata, Gould, Birds Aust., fol., vol. iv., pl. 49 (1848).
Entomophila leucomelas, Gadow, Brit. Mus. Cat. Birds, vol. ix., p. 220 (1884).

Three adult males, 27/12/00, 17/2/00, 22/2/00.

One adult female, 17/2/00.

[When disturbed in a tree, a flock will rise to a great height in the air, and then fall suddenly into another tree a few hundred yards away. They are very shy. Just now (28/2/00), there are large flocks of this bird flying at times in a circular way high in the air.]

25. ENTOMOPHILA RUFIGULARIS (Gould), Red-throated Honey-eater.

Entomophila rufigularis, Gould, Birds Aust., fol., vol. iv., pl. 52 (1848).
Entomophila rufigularis, Gadow, Cat. Birds Brit. Mus., vol. ix., pl. 219 (1884).

a. Adult male, 23/10/01.

a.' Adult male, 31/1/01.

b. Adult female, 24/10/01.

c. No sex marked, 11/10/01.

d. Fledgling.

e. Immature female, 28/3/00.

The red marking of the throat showing only in *a*. On the female (*b*) there is slight indication of it. This is also on *c*. No appearance of red on the throat of *e*.

Description of Fledgling.—It is about two days since it left the nest. The throat and whole of the under surface are much lighter (greyish-white) than in the adult, and without any sign of the throat colour. Around the eye there is a narrow ring of white feathers. The wing quills are strongly edged with wax-yellow, as in adult; tail short; wing 1.9 inches.

Mr. Rogers writes about seeing one bird with rufous on sides of chest instead of on the throat.

[The present species is often seen feeding within the long grasses. It chases flies and small beetles, occasionally darting straight into the air and promptly across to its perch.] This is a habit common amongst Southern Honey-eaters (*Meliphagidæ*).

Two eggs received are dated 2/3/01.

27. *MANORHINA LUTEA*, Gould (sub-sp. of *M. flavigula*, Gould), Yellow Miner.

Myzantha lutea, Gould, Birds Aust., fol., vol. iv., pl. 78 (1848).

Manorhina lutea, Gadow, Cat. Birds Brit. Mus., vol. ix., p. 262 (1884).

Eight skins received as follows:—

- a*. Adult male, 4/1/00; wing, 4.7 inches.
- b*. Adult male, 17/11/01; wing, 4.9 inches.
- c*. Adult male, 9/3/01; wing, 5.05 inches.
- d*. Adult male, 10/11/01; wing, 5.15 inches.
- e*. Adult male, 9/3/01; wing, 5.4 inches.
- f*. Adult female (?), 10/11/01; wing, 4.6 inches.
- g*. Adult female, 11/11/01; wing, 4.85 inches.
- h*. Adult female, 11/11/01; wing, 5.3 inches.

The length of wing shows these specimens to be *M. flavigula* rather than the sub-species of it. The citron-yellow is, however, indicative of *M. lutea*.

New nest and eggs were described in the *Victorian Naturalist*, vol. xviii., No. 2, p. 32 (1901).

[On 30th August, 1900, a nest containing two hard-set eggs was found. The nest was 20 feet from the ground, neatly made, and bound to the horizontal fork with silky vegetable material.]

28. *PHILEMON CITREOGULARIS* (Gould), Yellow-throated Friar Bird.

Tropidorhynchus citreogularis, Gould, Birds Aust., fol., vol. iv., pl. 60 (1848).

Philemon citreogularis, Gadow, Cat. Birds Brit. Mus., vol. ix., p. 277 (1884).

The youngest bird shows only a faint trace of yellow upon the neck, and that upon the throat. A bird of the same sex and

age shows a conspicuous marking of yellow upon the throat and the sides of the neck. One still older (*c*), and, in addition, a fully adult specimen (*d*), show no yellow. This makes the species dichromatic.

a. Young male, recently out of nest, 1st February, 1900. Similar in general appearance to the adult. Whole of body plumage except quills, wing-coverts, and head soft and loose, owing to absence of hooklets; tail quills tipped with sandy-buff and darker than the upper tail coverts, inner webs of secondaries sandy-buff; throat feathers silvery-white; wing, 4.75 inches; culmen, 1 inch. [Irides dark brown; legs and feet dull bluish-grey.] Wing coverts edged with sandy-buff.

c. Young female, 31st January, 1900. The like plumage to *a* has been moulted, and the plumage is now of true feathers. The only trace of yellow is in a solitary feather on the right side of the neck; chest feathers have white tips, the white contracting as it goes down the rachis; under tail coverts brownish along the centres; inner webs of secondaries pale fleshy-grey; throat feathers silvery-white; wing coverts uniform with back; tips of tail quills creamy-white; bill and bare patch round eye black; cheek, below eye, blue-black. [Irides brown; legs and feet greyish-brown.] Wing, 4.9 inches; culmen, 1.2 inches.

b. Immature male, 20th January, 1900. The conspicuous difference between this and *a* is the prominent patch of yellow on the throat and sides of neck, and broad white edging of many of the mantle feathers and narrow border upon others as low as the rump; the outer edges of the secondaries are dull yellowish-green. Wing, 4.85 inches; culmen, 1.1 inches.

d. Adult male, 31/1/00. No trace of yellow in plumage; tips of tail uniform with the brown of quills; chest feathers much frilled; throat feathers moulting; wing, 5.25 inches; culmen, 1.35 inches.

[In the early morning (July) a large number of this species gather in a huge "boab" tree in front of the house I am staying at and hold a "corroboree." One seems to lead, and the rest join in the chorus. After the song they fly to a second tree and repeat the performance, keeping it going for about an hour. After this they leave for their feeding grounds, at present in the blossoming bauhinia trees.

On 31st January I found a nest with three eggs instead of two, the usual clutch, as well as I know.]

29. PSEUDOGERYGONE CULICIVORA (Gould), Western Fly-eater.

Gerygone culicivora, Gould, Birds Aust., fol., vol. ii., pl. 99 (1848); Sharpe, Cat. Birds Brit. Mus., vol. iv., p. 220 (1879).

a. Adult male, 29/8/00.

b. Young (sex not marked), 29/8/00.

Description of Young.—The tail early serves as an index to the species. It is a miniature. Around the eye is a tawny

tinge, and along the outer borders of the primaries, secondaries, and coverts is the same, particularly well exhibited in the secondaries; head and neck grey; back and rump ruddy brown, as in adult; under surface white; wing, 1.5 inches. [Bill light brown; irides brown; legs and feet bluish-grey.]

[The nesting appears to take place among the mangroves. I have found three clutches of two and three eggs—*a*, 18/3/01; *b*, 20/3/01; *c*, 21/3/01. *a* was taken in the top of a mangrove shrub two feet from the ground, *b* and *c* three feet from the ground. In *b* were two eggs of the Fly-eater and two of the Bronze Cuckoo. In such a nest there would not have been any room for two Cuckoos in a full-grown nestling stage. In a fourth nest I found a dried-up dead bird sitting on a clutch of three eggs. One was slightly cracked, and upon breaking this I found, much to my surprise, a living young bird in it. This shows one how the nests in this hot place are natural incubators in many cases. The bird had been dead for some days. The nest had been knocked about in a gale a few days ago, and the rain had beaten it about. In this nest was a Bronze Cuckoo's egg.]

30. *PSEUDOGERYGONE TENEBROSA* (Hall), Dusky Fly-eater.

Pseudogerygone tenebrosa, Hall, Vict. Nat., vol. xviii., No. 5, p. 78 (1901).

a. Adult male, 19/6/00.

b. Adult male, 3/9/01.

c. Adult female, 3/9/01.

d. Adult skin (sex ?), 1/9/01.

e, *f*. Adult males, —/9/01.

c specimen has its head and throat faintly flushed with pale tawny colour of the under surface, and even more noticeable.

31. *GERYGONE ALBIGULARIS* (Gould), White-throated Fly-eater.

Gerygone albigularis, Gould, Birds Aust., fol., vol. ii., p. 79 (1848).

Gerygone albigularis, Sharpe, Cat. Birds Brit. Mus., vol. iv., p. 212 (1879).

Two skins—one an adult male, the other unsexed—dated 13th and 26th August, 1900.

32. *SMICRORNIS FLAVESCENS* (Gould), Yellow-tinted Tree-Tit.

Smicrornis flavescens, Gould, Birds Aust., fol., vol. ii., pl. 104 (1848); Sharpe, Cat. Birds Brit. Mus., vol. iv., p. 210 (1879).

One adult male (23/2/00) and one young female (11/2/01).

The difference is slight, though the young may in this case be identified by its paler yellow under surface. [Irides and corner of mouth white; bill brown, having cutting edge of upper and all lower mandible grey; legs and feet dull pale brown.] Lores creamy; primaries edged with white along the distal outer webs.

[This species is usually to be seen feeding amongst the leaves of box saplings. On the Lower Livuringa station it is plentiful.]

33. *PTEROPDOCYS PHASIANELLA* (Gould), Ground Cuckoo-Shrike.

Pteropdocys phasianella, Gould, Birds Aust., fol., vol. ii., p. 59 (1848); Sharpe, Cat. Birds Brit. Mus., vol. iv., p. 22 (1879).

Three specimens, two males and one female, all of which appear to have taken part in incubation.

a. Adult male, 8/4/00. Primaries and coverts nutty-brown; secondaries slaty-blue, two being tipped with white; middle quills of tail tipped white.

b. Adult male, 5/2/00. Primaries, their coverts, secondaries and coverts slaty-blue; no white tips to wings or tail.

c. Adult female 8/4/00. Wings as with *a.*

[Very shy. In July I saw several fly high from the timber of the hills at Livuringa station a considerable distance over the plain, and return direct to the place they left in the hills.] Why?

34. *GRAUCALUS MELANOPS* (Latham), Black-faced Cuckoo-Shrike.

Graucalus melanops, Gould, Birds Aust., fol., vol. ii., pl. 55 (1848); Sharpe, Cat. Birds Brit. Mus., vol. iv., pp. 30, 469 (1879).

One male skin, dated 20/3/01, shows the throat in moult. The grey feathers have nearly all fallen, while a few of the blacks are still bursting.

[Eggs were collected on 26/11/99 and 31/12/00.]

35. *ORIOLOUS AFFINIS* (Gould), Northern Oriole.

Oriolus affinis, Sharpe, Cat. Birds Brit. Mus., vol. iii., p. 188 (1887).

Three skins, two adult males and one immature female.

a. Adult male, 23/10/01. Upper surface yellowish-green; centre of feathers dark brown.

b. Adult male, 14/10/01. Similar to *a.*

c. Immature female, 14/10/01. The upper surface is grey with brown markings, a flush only of green appearing on the upper tail coverts, rump, and crown; wing coverts broadly edged with pale rufous-brown; under wing coverts bright rufous, but broader than in adult. [Irides reddish-brown; bill, culmen brown, balance fleshy-grey; feet and legs leaden grey.]

36. *COLLYRIOCINCLA PALLIDIROSTRIS* (Sharpe), Pale-headed Shrike-Thrush.

Collyriocincla pallidirostris, Sharpe, Cat. Birds Brit. Mus., vol. iii., p. 293 (1877).

Juvenile male, 9/4/00.

This specimen I mark as a young male. It shows a distinct pale rufous eyebrow, and a fawn-white spot before the eye. The circlet of feathers around the eye is pale rufous like the eye-

brow, which is white in the specimen described by Dr. Sharpe. In general appearance it is quite at variance with an adult of *C. brunnea*, Gould. The throat and chest are streaked; under tail coverts creamy-white; culmen, 0.85 inch; wing, 4.75 inches. [Bill pale grey, upper mandible slightly darker at tip; legs and feet bluish-grey; claws pale grey.]

37. COLLYRIOCINCLA BRUNNEA (Gould), Brown Shrike-Thrush.

Colluriocincla brunnea, Gould, Birds Aust., fol., vol. ii., pl. 76 (1848); Sharpe, Cat. Birds Brit. Mus., vol. iii., p. 291 (1877); Ramsay, Proc. Linn. Soc. N.S.W., vol. ii., 2nd Series, p. 167 (1887).

a and *b*. Adult males, 14/10/01.

c. Adult male, 18/8/01.

a and *b* have the forehead clear grey; *c* ruddy brown, and extending to nape, only partially covering the grey. In these male skins there is no indication of a white or rufous eyebrow. The range of colour in all is from pale grey to brownish-grey, seeming to brown with age.

38. ANTHUS AUSTRALIS (Vigors and Horsfield), Pipit.

Anthus australis, Gould, Birds Aust., fol., vol. iii., pl. 73 (1848); Sharpe, Cat. Birds Brit. Mus., vol. x., p. 615 (1885).

Two specimens of the brown variety are to hand, one of which shows no rufous, while the second is faintly marked with tawny in certain points.

Specimen *a*. Adult male, 29/8/00. Lores, eyebrows, and under tail coverts creamy-white; lower back and upper tail coverts uniform dull brown.

Specimen *b*. Sex not marked. Immature bird, 29/8/00. Lores, eyebrow, and under tail coverts pale rufous; lower back feathers and upper tail coverts brown, edged with tawny; wing quills and coverts slightly rufous-marked.

In writing of these as the brown variety, I do so as a distinguishing mark, because of the intensely rufous phase (of which I have skins) in a more southern part of Western Australia. The "brown" may reproduce a brown or a parti-coloured rufous bird, as in Victoria. Judging by specimens collected in Western Australia by the writer, the rufous bird may reproduce a much paler and greyer brown bird than itself. Still, one meets many rufous birds, parents and young, and many greyish-brown birds, parents and young, and they may be broadly spoken of as the "Rufous" and the "Brown" varieties. Naturally the former is more a desert form.

[Of the Pipit I see very little. I saw a pair at the Breakaway and another near Derby, 1/12/00.]

39. MIRAFA SECUNDA (Sharpe), Lesser Bush-Lark.

Mirafra secunda, Sharpe, Cat. Birds Brit. Mus., vol. xiii., p. 603 (1890).

Eight skins, including five females and three males.

The Bush-Larks are difficult to determine, because they have the same tendency to become more or less rufous* as with other desert forms, e.g., *Anthus*. In proportions they vary also. The above skins answer more closely to Dr. Sharpe's *M. secunda* than to any other, allowing an intensity of rufous to some and a pale tawny shade to others. The eyebrow varies to the same extent. That an allowance must be made for the varying intensity of the rufous colouring of the species is quite evident to me, as young and old of same dates bear a similar wash upon them. The general tendency is to become more deeply rufescent with age. This can be noted while comparing skins *a*, *b*, *c*, *d*, and *e*. With increasing age the blackish-brown centres on the chest feathers disappear, leaving a uniformly rufous-marked or pale tawny-white chest, as the bird may be of the rufous or pale-brown variety. Specimen *g*, with a white throat, has a paler mesial line above the eye than any others, which are clearly rufous.

The tarsi in the following specimens are 0.9 inches in each case.

a. Immature female, 24/7/00. Concluding its moult of the tail quills.

b. Immature female, 24/7/00. The forehead and crown are blackish, with very narrow tawny edges to the feathers; sides of face faintly rufous. This specimen, which appears to be an immature bird by comparison alone, answers to Dr. Sharpe's original description more than any other of my specimens.

c. Adult male, 24/7/00. Forehead and crown rufescent, with blackish lines to the feathers; sides of face much more rufous than in *b*. The whole of the bird distinctly marked with rufous.

d. Adult female, 18/8/00. Slightly smaller than *c*.

e. Adult female, 26/2/00. Rufous is upon every portion of this bird, the mandibles and outer tail quills included.

g. Adult male, 24/6/00.

In the above specimens the shoulder and wing coverts are more strongly rufous-marked than any other portions of the species.

Subsequent to writing the above I have had the opportunity of examining the skins in the Australian Museum. Mr. North showed me specimens which I make connecting links between this species and *M. woodwardi*, Milligan—in parts deeply rufous. *M. horsfieldi* has been collected on the Fitzroy River—Calvert Exp. Rep., Roy. Soc. S. Aust., xxii, pt. ii, p. 141 (1898).

Desert forms, I find, have a wide range of variation in colour from brown to deep uniform rufous.

It appears to me that the birds in North-Western Australia are as a whole rufous, while the birds in the south-east of Australia are as a whole brown to greyish-brown. Connecting

* "Darwinism." A. R. Wallace, p. 192 (1889).

these two are many specimens broadly distributed, and with a wide range of rufous, more or less.

[The males are now (20/1/01) very animated. They are mating, and the feathers on the crown are raised. To-day (14/12/00) was dull and cloudy, with a cool breeze blowing, consequently the birds sang all day. Usually they stop for an hour or two in the hottest part of the day. One I noticed (26/2/00) was singing in the air, and continued to do so for ten minutes while I was timing it. The river flats seem to be their home, and, unless by reason of a flood, I doubt if ever they leave them. I have never seen one settle upon a tree.

During the evening of 7/12/00 a heavy gale was blowing. I was returning from the day's work. The natives in my charge were walking to windward and flushing large numbers (scores) of these birds. They were driven before the wind like a cloud of dry leaves, keeping close to the ground. Every now and again a bird would face the wind, only to shoot 2 to 3 yards into the air and be blown away further. In a few moments hundreds of this species must have passed me. The song is better sustained in the morning than in the evening. So far I have not heard them sing at night.]

The nest and eggs, not yet described under the name *M. secunda*, are practically the same as those described by the writer last year in the *Victorian Naturalist* under the name *M. woodwardi*. Both birds, answering to each species as described, have been received from Derby. The specimens of *M. woodwardi*, Mill., described are more rufous than those of *M. secunda* described by Dr. R. B. Sharpe, but it appears to me that *M. woodwardi* and *M. secunda* are the desert forms of *M. horsfieldi*, Gould—in other words, the “rufous” variety—while the Eastern Australian bird is the “brown” variety. The intermediate varieties hold an arbitrary position.

40. CINCLORHAMPHUS RUFESCENS (Vigors and Horsfield),
Rufous Song-Lark.

Cincloramphus rufescens, Gould, Birds Aust., fol., vol. iii., pl. 76 (1848);
Sharpe, Cat. Birds Brit. Mus., vol. vii., p. 500 (1883).

Ptenædus rufescens, Ramsay, Proc. Linn. Soc. N.S.W., vol. i., 2nd
series, p. 1,090 (1886).

One adult female, 7/4/00.

[It appeals to me as being a very rare bird. The only one seen rose from the ground and alighted a few yards away in some spinifex. Then, when I turned it out, it flew a few yards further into a small tree and hid among the leaves.]

41. CINCLORHAMPHUS CRURALIS (Vigors and Horsfield), Brown
Song-Lark.

Cincloramphus cantillans, Gould, Birds Aust., fol., vol. iii., pl. 75
(1848).

Cincloramphus cruralis, Gould, Birds Aust., fol., vol. iii., pl. 74
(1848); Sharpe, Cat. Birds Brit. Mus., vol. vii., p. 498 (1883).

One male skin, 13/1/01.

It appears to be an immature bird in moulting plumage, without more than a trace of an abdominal patch. The forehead and crown are almost uniform rufous, while the nape is rufous with some of the feathers faintly margined with a pale brown. There is no white upon this specimen, rufous taking its place. Here, again, is an example showing the extent in one direction of the remarkable range from greyish-brown to rufous that our ground birds, *Mirafr*, *Anthus*, and *Cinclorhamphus*, take upon themselves. This may be called the "rufous" phase of the species.

Soft parts of the above skin: [Irides light brown; culmen and tip of bill brown, the cutting edge upper and all lower mandible grey; feet and legs greyish.]

[Common at Breakaway; rare at Livuringa.]

42. *EREMIORNIS CARTERI* (North), Carter Desert Bird.

Eremiornis carteri, North, Vict. Nat., vol. xvii., No. 4, p. 78 (1900).

One adult male, 19/12/00.

[This is a rare species. I secured the specimen in the spinifex, where it was hiding very close. When flying it carried the tail widely spread.]

43. *CHALCOCOCCYN BASALIS* (Horsfield), Narrow-billed Bronze Cuckoo.

Chrysococcyx lucidus, Gould, Birds Aust., fol., vol. iv., pl. 89, part upp. fig., ad. lower fig., juv. (1848).

Chalcococcyx basalis (Shelley), Cat. Birds Brit. Mus., vol. xix., p. 294 (1891).

a. Adult male, 23/7/01.

b. Adult male, 6/9/01.

c. Young male, 22/3/01.

d. Adult female, 22/2/00.

There is a great difference between the adult males *a* and *b*. The young bird, *c*, shows a strongly marked rufous tail; there are no marks or bars upon its under surface.

a. Whole under surface almost white, with narrow bars; forehead lead colour; crown and nape bronzy; subterminal dark band on tail.

b. Whole under surface flushed with rufous, with broad bars, and disappearing upon the throat; forehead, crown, and hind neck uniform dull ruddy brown.

The latter specimen has its plumage abraded, and has been longer subjected to weather influences than specimen *a*.

Mr. Rogers discovered an egg of this species in the nest of *Malurus dorsalis*, a probable new foster parent, 7/1/00.

44. CUCULUS PALLIDUS (Latham), Pallid Cuckoo.

Cuculus inornatus, Gould, Birds Aust., fol., vol. iv., pl. 85 (1848).

Cuculus pallidus, Shelley, Cat. Birds Brit. Mus., vol. xix., p. 261 (1891).

Two skins received—one an adult male dated 25/3/00, and the second an immature female, showing many chestnut markings, and dated 16/3/00.

45. CACOMANTIS VARIOLOSUS (Horsfield), Square-tailed Cuckoo.

Cuculus tymbonomus, Müll., Rams., P.L.S. N.S.W., vii., p. 21 (1881).

Cuculus dumetorum, Gould, Birds Aust., vol. iv., in text, pl. 87 (1848).

Cacomantis variolosus, Shelley, Cat. Birds Brit. Mus., vol. xix., p. 272 (1891).

a, b. Immature males, 13/4/00.

c. Adult male, —/1/00.

In *a* and *b* the white tooth markings are slightly rufescent, and the under wing coverts, with much of the under surface, especially the chest, is marked by pale violet transverse bars. The bars of *a* are less distinct than those of *b*. The forehead feathers are moulting in both specimens and new ones are appearing on the neck. *c* does not show rufous upon the tail nor bars upon the under surface. The peculiar tawny colour of the under surface of *a* and *b* is absent on the throat of *c*, and feebly represented on the lower parts. The wing coverts are also without the bronzy rufous of those of *a* and *b*. The stripes on feathers are white, while in *a* and *b* they are flushed with tawny. Under wing coverts almost uniform. With age the barring of the young is lost.

[The habits of this species and the Black-eared are similar.]

46. CACOMANTIS FLABELLIFORMIS (Latham), Fan-tailed Cuckoo.

Cuculus cineraceus, Gould, Birds Aust., fol., vol. iv., pl. 86 (1848).

Cacomantis flabelliformis, Shelley, Cat. Birds Brit. Mus., vol. xix., p. 266 (1891).

One adult male, Jan., 1900.

Nearly all the colour has gone out of the plumage (much abraded). Practically speaking, there is no blue, and the neck and upper tail coverts are tending to grey. The tooth markings of the centre tail feathers are worn away. The under surface is very pale ferruginous. Length of wing, 5 inches.

47. MISOCALIUS PALLIOLATUS (Latham), Black-eared Cuckoo.

Chalcites osculans, Gould, Birds Aust., fol., vol. iv., pl. 88 (1848).

Misocalius palliolatus, Shelley, Cat. Birds Brit. Mus., vol. xix., p. 279 (1891).

Two adult males, 27/2/00 and 15/3/00.

[Up to 27/2/00 I had seen only three specimens ; on 9/3/00 they were plentiful.]

48. *CENTROPUS PHASIANUS* (Latham), Spur-footed Cuckoo (Coucal).

Centropus phasianus, Gould, Birds Aust., fol., vol. iv., pl. 92 (1848) ; Shelley, Cat. Birds Brit. Mus., vol. xix., p. 340 (1891).

One skin, immature male, 16/10/01.

[I was told by my companion, Mr. Douglas, of a set of eggs he found. He blew out the contents of all but one, which he had hurriedly to leave and put aside in wadding. This he forgot, and returning to the place in his tent some days hence he found the heat had artificially hatched a young cuckoo, so even and humid had been the atmosphere. It was dead.]

My Tame Wild Birds.

BY (MRS.) K. LANGLOH PARKER, WALGETT, N.S.W.

SURELY one of the most charming of holy men was the sublimely simple Saint Francis. According to legend, he preached to his "little sisters the birds," who, recognizing him as a brother, flew round him, remaining quiet until his sermon was finished, nor would they depart "until he had given them his blessing." The sermon, they listened so attentively to, was as follows :—

"My little sisters the birds, much bounden are ye unto God, your Creator, and always in every place ought ye to praise Him, for that He hath given you liberty to fly about everywhere, and hath also given you double and triple raiment ; moreover, He preserved your seed in the Ark of Noah, that your race might not perish out of the world ; still more are ye beholden to Him for the element of the air which he hath appointed for you. Beyond all this, ye sow not, neither do you reap ; and God feedeth you, and giveth you the streams and fountains for your drink ; the mountains and the valleys for your refuge, and the high trees whereon to make your nests ; and because ye know not how to spin or sew, God clotheth you, you and your children ; wherefore your Creator loveth you much, seeing that He hath bestowed on you so many benefits ; and, therefore, my little sisters, beware of the sin of ingratitude, and study always to give praises unto God."

In "The Little Flowers of Saint Francis" it is further recorded :—"When, as Saint Francis spake these words to them, those birds began, all of them, to open their beaks, and stretch their necks, and spread their wings, and reverently bend their heads down to the ground, and by their acts and by their songs to show that the holy father gave them joy exceeding great.

And Saint Francis rejoiced with them, and was glad, and marvelled much at so great a company of birds and their most beautiful diversity, and their good heed and sweet friendliness, for which cause he devoutly praised their Creator in them." There is natural history in the old legend as well as the human lesson that love casts out fear. The birds to-day, as in the time of the good Saint Francis, quickly recognize their friends.

I would that a modern Saint Francis would preach to his big sisters the women, "charming" them to desist from the encouragement of bird slaughter for decorative purposes. The savage dies hard in us all, but surely we might for our corroborrees content ourselves with such feathers as are plucked from the birds slain for food, and those that the Ostrich industry provides.

It is not that we do not care when we realize our cruelties, but that we are careless with regard to realization, like the woman who reproved a little boy for robbing birds' nests, while trimming her own hat was a whole bird of the species which had laid the eggs. But my brief is not for women, but for birds. No need for caged birds in the bush, it seems to me. And, looked at from the modern utilitarian standard, how much more useful the insect-devouring birds are at large, saving our gardens and our grass from many a plague, helping, too, to keep under the weeds by eating their seeds.

My tame wild birds are uncaught, uncaged, though they own me as their "lady," in one of the old senses of the word—a breaker of bread. Every morning after breakfast finds me on the front verandah, facing a low, spreading tamarisk, which waves its feathery branches, just now pink-tipped with budding flowers, in defiance of the many droughts. There I stand crumbling the bread I hold, as I whistle my bird call.

Sith, shish, shirr! there they are. First the "Gidgeeais," as the darkies call them, but variously known as "The Happy Family," "The Twelve Apostles," and "Seven Sisters." Such a noisy, self-assertive crowd. Very homespun-looking birds, dim grey, with light-brown touches on the wings, boot-button eyes, and raucous voices which, as they are always in flocks, are rather deafening. My particular flock numbers twelve usually, though just now they are only coming intermittingly, a few at a time, the rest guarding their mud tree-nests.

The tamarisk is a sort of green-room where the bird troupes preen their plumage between the acts. First of all they fly on to the stage—a gravelled pathway under the verandah porch, where are flower-pot saucers of water. There they peck away at the dry crumbs, or the soaking crusts, or, if grass-seed is scarce, the oats I scatter. No patent sheller is in it for rapidity with the "Gidgeeais" at husking the grain. Presently such a noise—"Gidgee-oi-ee! gidgee-oi-ee!" and a frou-frou flight to the green-room as a couple of cats steal up, hoping to surprise their

prey ; but the "Gidgeeais" always have a scout on the look-out, who gives the alarm.

Having proved that a woman can throw a stone with an accuracy denied her, and so cleared the scene of cats, once more sith, shish, shirring back come the "Gidgeeais," fearless as to me, quite seeming to know how strong a bond of sympathy exists between us by reason of our hatred of cats. Peck, peck again at the crumbs, peck at the sop soup ; a drink, and a tilt back of the head, for physiological, not psychical, reasons. Then off they go to perch themselves on the green-room rustic seats, where they nestle together, rearrange their own and each other's feathers, kiss one another "bye-bye," and seemingly doze off.

In the meantime, with his head on one side, to the stage hops "Curreequiquin," the drab Butcher Bird. After an inquisitive look round, he pecks a few crumbs, takes a piece of bread, and flies to the ridge-pole of the porch, finishes his bread, lirts a few notes of his sweet lay, then sights some insect on the flower border. A sudden dart at it—if a worm it is swallowed holus bolus ; if a grasshopper, first dissected in a professional butcher fashion. Back to the ridge pole, where the interrupted song is continued until "Booboorboo," the black and white (Black-throated) Butcher Bird, comes to the *café chantant*. "Curreequiquin" eyes him as a rival, and has his glance returned in kind ; but, aggressive as such glances appear, they do not lead to combat, though down flies "Curreequiquin"—not to fight, but to feed again, and both peck away.

These feathered songsters have evidently not to consider their diet before singing, for, almost directly after their mixed meal of insects and crumbs is over, a sort of Orpheus *versus* Marsyas contest begins. One flies on to a near bead tree, just budding into leaf ; the other on to the ridge-pole of the porch, where the snail-flower used to twine, with the Gloire de Dijon, before the drought fiend claimed them, with so much else, till

"All forget that this waste was garden ;
But I, waste place, I do not forget !"

There the two start singing, a few notes at a time, first singly, then a sort of canon, until in a rippling burst of melody Orpheus, the drab bird, improvises beyond the ken of Marsyas, who, feeling himself defeated, wings his way to the bush, to seek comfort, perhaps, from his mate at home. Orpheus never heeds his departure, but sings on with such a *joie de vivre* that it communicates itself to all who hear that bubbling stream of melody.

Miau ! meow ! miau ! What, a cat again ? No, "Weedah," the Spotted Bower Bird, whose voice anyone might well mistake for that of a cat, it is at times so exactly like, though not, I think, imitative, as I once fancied, but natural. "Weedah" jumps in a series of short jumps (all my birds have different

walks). He holds himself nearly as upright as a Penguin. He looks warily round, then up he jumps to a water-dish and begins his breakfast, but his eyes wandering everywhere, as much on the alert as a blackfellow among strangers. "Weedah" is very well dressed in dark brown feathers, spotted with light tan on wings and back, a shaded grey breast, and a lovely pink-heliotrope patch of colour at the back of his neck, a patch which he can unfurl at times to look larger.

A little pecking and a few cat-calls then off he goes, but soon returns with his mate, very like him but minus the heliotrope patch. They do not stay long; she is shy; he takes her home and returns himself, when he finds in possession three Magpies. These are "Moograbah," the Black-backed Magpies. Such impudent-looking birds, as they swagger along, heads on one side or thrown back, with a cock-of-the-walk air, as, with rather swinging long strides they come into the foreground and try to clear the stage of all other birds. Sometimes they give no warning of their coming, but swoop down like a hawk, establishing a scare.

But the "Gidgeeais" (Apostle Birds) wake up, shriek on to the scene, and refuse to be bluffed by the arrogant terrors of the bush.

While they are engaged in sniping at each other the little Crested Pigeons sith, sith, sith, as if they had silken wings, down among the crumbs—first at the outside edge, then, watching their chance, topknots erect like a blackfellow's corroboree decoration, trot, trot, with quick short steps, something like a Chinaman's when shouldering his baskets or watering cans. Such trim little birds these—neat little heads, pink-eyed, pink-toed, a pink flush on each side of their breasts, toning exquisitely with their dove-grey plumage. As they move, the sun catches the purple and green bronze tints on their wings, giving them a metallic sheen. Very homespun and bull-necked the "Gidgeeais" look beside them.

Most birds seem to peck quickly at their food, but the "Goolahwilleel" or Crested Pigeon particularly so. At last a sense of repletion comes over them, they start a soft cooing "Ooh! ooh! ooh!" Their topknots lower from their fighting altitudes, giving the birds quite a mild air for a few seconds, when up they dart again, getting a forward incline while "Ooh! ooh! oohing!" The Pigeons spread out their white-tipped, black-barred fan-tails, with the aplomb of a peacock, and playfully try to prod the objects of their attentions, as with a sort of curtseying step they trot, trot after them, the pursued enjoying the chase evidently, as they never attempt to fly away. When tired of this coquetting they return to the crumbs, or perhaps to drink, though at meal times the pigeons are not great drinkers, drinking their fill regularly at early morn at the creek, flocking to its edges sometimes in hundreds, and again when the sun

sinks in its golden haze to rest behind the grey coolabahs (eucalypts).

Close to the tamarisk come the Rose-breasted Cockatoos (Galahs), luckily too busy feeding to crack the air with their harsh shrieks, which so discount their beauty. Then "Swit! swit! geliebl! geliebl!" sounds as the spick and span little "Burrengeens" or Magpie Larks come along, late for breakfast, as usual. All wild birds have a clean look, but black and white ones especially so.

"Moograbah" (a Magpie) sights the newcomers. Such a chirping begins. From tree to tree the "Burrengeens" are hunted, in spite of the protesting chorus of the other birds, bar the Pigeons, who take the opportunity to finish, unmolested, their morning meal. There seems a regular vendetta between the Magpies and Magpie Larks—perhaps the former resent the latter imitating their dress so closely.

All of a sudden, as "a bolt from the blue," comes "Deereeree" (a Wagtail, or Black and White Fan-tail) to pounce at one Magpie, while a yellow-billed Miner pursues another. A bird edition of David and Goliath; again the victory lies with David, and the Magpie Larks are free to eat their crumbs and smoothe their plumage, while their little defenders keep the pot-valiant Magpies at bay. Even as his prototype David, so is "Deereeree" (Fan-tail) a singer of sweet songs. All bushmen know his moonlight serenade, "Sweet pretty creature, sweet pretty creature!" and all bushmen must often have seen these self-possessed little birds wagging their little fan-tails as they hop from place to place on the sheep's backs, plucking scraps of wool to work into their compact little nests—models of form and ingenuity. There must be some element of truth in the darkie's evolutionary theory that many of the human race are descended from birds. Having hunted "Moograbah" (Magpie) off, "Deereeree" comes for a drink, and "Burrengeen" (Magpie Lark), regardless of his obligations, pecks at him.

Listen! a long-drawn-out "Sw-e-e-t!" That is the note of the "Durrooe," a little dark bird with a speckled head with a peacock-blue shaded tuft on top. There she is on the bibbil tree. In "Durrooe," the darkies say, is embodied some dead woman's spirit. Her cry is said to be the name of whichever woman her form embodies, but to me it seems always just a plaintive "Sw-e-e-t! sw-e-e-t!"

What a chitter-chatter and a flitter-flutter as the "Duddah-loorahs" (Babblers) cluster on to the sweet-scented budtha tree. They are somewhat larger than "Durrooe," dark feathered but for whitish breasts, a white band across their spread-out tails, and speckled heads, slightly crested; always in small flocks, like the Happy Family. Besides their usual chitter-chatter they have a lovely drawn-out bar of music—"Whee-poor-whee! whee-poor-whee!"

Along the red-berried African box hedge, at first, but soon to come closer, feed the Parrots ; just now some half-dozen "Nungaras," or Mallee Parrots, are there—green, with a collarette of whitish feathers, and a yellow bar across their breasts.

Such a noise again ! The "Gidgeeais" (Apostles) are going, beak and claw, for some interloper. No wonder the dowdy things are jealous. The intruders are two "Billai," the most gorgeous birds in our bush (Red-winged Lories)—such green ! such crimson ! as vivid in contrast as the leaves of a Mexican fire plant, which our little darkies always call the crimson-wing plant.

When they are startled the Parrot cry is harsh, but in repose their "Chickle, chuckle, click, click" mouth cries are rather sweet.

There is the Bower Bird off again, I expect to his playground. He has one in a clump of dheel trees not far from here. It is made of two leaning walls of grass, tent topped and open at each end for him to run backwards and forwards, playing with his heaped-up pieces of glass, bones, and stones at each entrance. The darkies say in the "dark backward" "Weedah" (Bower Bird) was a great doctor, and these curios are his magic-working charms.

All his skill seems to be expended on his playgrounds, his nest being an insignificant affair, wherein he possibly shows his wisdom, the insignificance of his nest probably helping to protect his pretty mottled eggs from the observation of the egg-collecting fiends.

There is always one or other of my birds twittering about. The pretty little "Whit Whits," with their dashes of red and yellow on their drab plumage, build in the verandah creepers ; so do the Whitethroats and Fan-tails. The yellow-billed Miners come and go, all quite at home. Looking through my window as I write I see pecking away within a few yards of the front step Galahs, Nungaras, Buln Bulns, Gidgeeais, Parrots, and Pigeons, including Gooboothoo, the little Ground Doves, who, despite their mild Quaker maid-like expression, are most quarrelsome. I can hear the Butcher Birds whistling, and now for the greatest treat of all—the Magpie is going to sing. His impudent air has gone ; he is just a troubadour of the bush with raisin-coloured eyes, who, as his dulcet notes ring out, would sooth the weariest prisoner to forget his woes.

Such songs must surely make for righteousness in a world whose best soul tonic is joy.

That gush of joyous music calms us into a belief in halycon days, and, as if to point the belief, on to a near trellis comes low-flying Gougourgahgah, one of the Halcyonidæ.

Sweet the day may be, with its day's eyes, as Chaucer called them, winking at us from amongst the blue-flowered crowfoot and scented herbage, but no longer calm. The quaint old

Laughing Jackass breaks suddenly forth from his solemnity into a mad burst of merriment, with chortle after chortle of "Gou-gour-gah-gah! gou-gour-gah-gah!"

Australian Birds at Sea.

BY GEORGE CARRICK (*s.s. Gulf of Genoa*).

THE actual difficulties to be surmounted on ship-board during the transit of birds from the Antipodes to Europe are many and varied, and probably a rough sketch of the average trip may be of interest to bird-lovers.

Having selected your stock and received the same on board, all seems well while on the coast, with nice warm weather and plenty of sunshine, but after leaving Adelaide and clearing Kangaroo Island the land dips to the north-west, while the ship keeps on her westerly course, and immediately plunges into the Great Australian Bight, with its very changeable and boisterous weather—the thermometer invariably dropping, often 15° to 20° in one night. The sky becomes overcast, heavy weather sets in, and the ship starts plunging and rolling heavily. The cages and boxes are stacked away as snugly as possible, but always in some corner where the only light they have is through a 10-inch or 12-inch porthole, which, with every other roll of the ship, is under water. So little light penetrates the cage that one is often glad when dusk sets in, and the electric light is turned on to give the birds sufficient light to see their food. Occasionally, too, to add to your difficulties and to the discomfort of the birds, one of the boxes breaks adrift, and you find it generally face down on the floor, with sand, seed, and water in a pulp, sticking all over the cage, and sand tray at an angle of 45° in the box. This state of affairs often lasts from three to five days.

After rounding Cape Leeuwin you meet with more genial weather, and have the stock removed to some sheltered spot, as near the open as possible, as it is yet too cold to take them right out on the deck, especially Gouldian Finches, which, when freshly caged, I find the most sensitive to cold. They will rarely stand a less temperature than 75° . At 70° they get ruffled up, with their head tucked under the wing, and drop off rapidly. After a few more days the weather gets quite warm, and it is perfectly safe to have the stock transferred to the open, and, needless to say, the birds thoroughly enjoy the warmth, fresh air, and daylight. In a week's time you begin to congratulate yourself on the condition of the stock, when you are plunged into the stifling, moist atmosphere of the Indian Ocean, from thence to the Gulf of Aden and the Red Sea. During this period Gouldians improve daily, but most other specimens feel it very trying, gasping all day for breath, and resting on the

perches with outspread wings. Towards sundown they simply go mad with joy, and eat their evening meal ravenously. They are now always left on deck overnight. The boxes are all double-fronted, one inch space between each wire front, for protection amongst rats. During the Mediterranean passage they pick up wonderfully, and by the time they reach Home—should the weather from Gibraltar to the Channel be fairly mild—are in grand condition. Sometimes boisterous weather is met with from the Portuguese coast to the Thames, when a repetition of the Australian Bight difficulties occurs, but on a modified scale, as there is more space on the ship, consequently more light and air, and, to the happy survivors, more cage space. As to food and general treatment during the voyage, Gouldians, Banded (Bichenos), Crimson, &c., Finches have canary seed and Indian millet in separate boxes, spray millet (millet in the ear) and cuttle-fish, with sea sand and finely ground shell on cage bottom, fresh daily, and thoroughly cleaned out every third or fourth day; outside bath hung on cage daily. With this treatment it is found they do exceptionally well, and always arrive home clean and in good condition. Parrakeets have the usual mixture of canary, hemp, millet (white), oats, and crushed maize, according to variety; Lorikeets, always boiled bread and milk (Nestle's condensed) first thing daily, which generally lasts them two to three hours; canary seed remainder of day. On this diet the Blue-bellied (Swainson's) and the Scaly-breasted do very well, but the Musky Lorikeet and some others will never touch the seed, so they get fruit—bananas or ripe pears—instead, when procurable. A pan of stewed apples, well sweetened, or stewed figs is often relished as a change. For insectivorous birds there is no hard and fast rule—their treatment is so variable; but I shall have a few words to say on their treatment at end of this article. One takes a particular delight in getting birds into, and landing them in, faultless condition when possible, and I have succeeded in carrying most delicate and rare stock. Very few die soon after importation. I may here mention a few of the insectivorous birds carried successfully to the Old Country, viz.:—Oriole, Fig Bird, Magpie Lark, Black-faced Cuckoo-Shrike, Brown Flycatcher, Blue Wren, Black and White Fan-tail, Satin Bird, Cat Bird, Regent Bird, Spotted Ground Bird, Coachwhip Bird, Bell Bird, Yellow-breasted Shrike-Robin, Rufous-breasted Thick-head, Brown Tree-creeper, Zosterops or White-eye; of Honey-eaters—the Striped, Warty-faced, Fuscous, Yellow-eared (Lewin's), Yellow-tufted, and Blue-faced (*Entomyza*), Friar Bird, Noisy Miner, or Soldier Bird; of the Wood Swallows—the Dusky, Masked, and White-eyebrowed; Nightjar, Sacred Kingfisher, Pallid Cuckoo, Painted Quail, Pectoral Rail, Stone Plover, Brush Turkey, and last, but not least, the Lyre Bird (single specimen, a hen).

I have always been surprised at so few insectivorous birds being kept in captivity in Australia,* seeing the large field one has to work upon to secure some magnificent birds, such as the Robins and Wrens, but apparently the food supply is the great drawback; but why should this be, when the country is overrun with the natural food of such birds as the Wrens? I refer to ants and their cocoons. A paper on the taking of the cocoons I have handed to the Editors, who will, no doubt, make further reference to it if necessary.†

As to food for "soft-bills," stock should consist of ants' cocoons, yolk of egg (preserved), crushed Osborne biscuit, and crissel (powdered dry meat prepared by Spratts), equal parts by measure, and damped to a crumbly paste (must not be wet or sloppy) by adding a little grated raw carrot or boiled potato. Almost all soft-bills will eat this readily; but for the more delicate Warblers and Fly-catchers leave out the carrot or potato and scald the ants' cocoons (dried), squeezing the water well out and adding crushed sweet biscuit (Osborne's preferred), and yolk of egg, either fresh or preserved, to bring it up to a dry, crumbly paste. With fresh-caught specimens sprinkle a few meal-worms on top of food; other insects, such as spiders, flies, and even the common black cockroach will do equally well, but

* In some States it is illegal to do so.—EDS.

† The article, "The Collecting of Ants' Cocoons as Food for Insectivorous Birds," referred to by Mr. Carrick, is an interesting one, contributed to *Fur and Feather* (1899) by Mr. H. J. Fulljames, a successful English aviculturist. As there is some analogy between the habits and life-history of European and Australian ants, the gist of Mr. Fulljames's article here follows:—Ants' cocoons, improperly termed ants' eggs, form an indispensable food for insectivorous birds. This is known to such an extent in Britain and on the continent that from many firms the article can be had all the year round, dried and tinned. But any energetic aviculturist could with very little trouble procure the cocoons for himself and lay by his own supply. During the spring and summer months ants, like bees, are busily engaged in rearing immense numbers of young. These, after being hatched from the egg, are in existence as cylindrical legless grubs, with an almost transparent body. They are entirely in the care of the worker ants, which feed them and carry them about from one gallery to another. The next stage, that of chrysalis or pupa, is entered upon when larvæ or grubs are full grown. They proceed to envelop themselves in a small silky cocoon. Only the ants of one genus, however, spin this cocoon; the other genera are without such a covering during their pupa stage, but the worker ants pay just as much attention to cocoons and pupæ as they do to larvæ, keeping them snugly in special galleries, carrying them out at set periods for fresh air, &c., &c. To collect the cocoons it is necessary to uncover the ant-hill until these subterranean nurseries are reached, having the hands well gloved to prevent the ants biting. The cocoons, together with ants and all *débris* that may be among them, must be quickly scooped into some convenient receptacle and carried elsewhere for cleaning. The ant-hills can be robbed several times in a season if care be taken to cover in the top again, for the rearing galleries are generally near the surface. To clean the cocoons of all rubbish the operator must cruelly make use of the instinct of those ants which were so roughly removed together with their charges. The whole "take" is spread out on a large sheet, with upturned edges. At several points on the outskirts, shelters of bracken or brushwood, or even newspaper, are placed, and under these the nurse ants quickly carry their charges, away from the light, leaving all refuse in the centre of the sheet. The cocoons, and amongst them may often be great numbers of larvæ, are well dried, and will then keep a week or more. Of course it is advisable to give them to the birds fresh when procurable, but the dried article when prepared with boiling water is just as nutritious.—EDS.

they must be partly disabled to prevent their escaping from the dish. Insects of some sort must be given daily in addition to artificial food. This may be easily supplied in the common house fly, catching same alive with traps. Place the traps with the flies in an oven for a minute or so, and serve up dead. After being caged a few days and used to being fed with live insects they will readily take to the fresh-killed flies. For the benefit of those aviculturists who cannot secure the fresh ants' cocoons, the dried cocoons and preserved yolk of egg, and even the crissel, may be obtained from Mr. J. Cooper, of the Eastern Market, Melbourne. In conclusion I may state that the above food is only meant for delicate specimens; the hardier varieties may easily be kept well on ordinary soft food as sold by Mr. Cooper, with addition of live insects. Fruit, too, is relished by and must be given to the Regents, Fig Birds, Zosterops, and such-like birds.

European Birds in Tasmania.

BY FRANK M. LITTLER, LAUNCESTON.

ALTHOUGH *The Emu* has as its object the popularising of the study and protection of native birds, it occurred to me that an account, up to date, of the distribution of English birds throughout this State would not be without some interest to many ornithologists.

The attempts to introduce birds into this State have extended over a number of years; unfortunately, in many instances, success has not crowned the efforts as was deserved. At the southern end of the island more species have been introduced and established than at the northern end. Not that one end of the island is better suited for acclimatisation than the other, but that more individual action has been taken by gentlemen interested to import species.

The most widely distributed and the best known of the imported birds is the English House Sparrow (*Passer domesticus*). It was introduced into Launceston from Adelaide some thirty or forty years ago, and is thought to have been brought here in mistake for the Tree Sparrow (*Passer montanus*). As might be expected, there was a great cry of protestation after it had thriven and multiplied. In many country districts the Sparrows now do an enormous amount of damage to the grain crops, and are heartily detested by farmers in consequence, who do all they can to thin their ranks, but without any appreciable diminution in their numbers. In vegetable gardens Sparrows do considerable damage, as they are very fond of pulling up young peas and destroying the buds of trees, &c. It must be added, however, that these birds, especially during the winter months, eat enormous quantities of aphides and many other

insects noxious to gardens. I was under the impression that no district was free from the Sparrow pest, but a most trustworthy correspondent informs me that they have not yet reached Tyenna, on Russell Falls River, a locality some miles to the west of Hobart.

The next best known bird is the English Goldfinch (*Carduelis elegans*), which has been here for close on twenty years. It is numerous in Hobart and the surrounding country. Flocks of 40 and 50 have been seen at a time. Round Launceston and the north it is not so numerous as in the south, but extends over a larger area of country. Taking the southern portion of the island first: numerous in Hobart and suburbs, fairly so in the Derwent Valley as far beyond the River Ouse as has been settled, exceedingly numerous round New Norfolk, Glenora, and Macquarie Plains. Sorell and the surrounding district have a fairly large quota. It is now increasing rapidly round Launceston and the suburbs, breeding freely in suitable trees in gardens where it is not molested. At Underwood, in the Upper River Piper district, it has comparatively recently become very numerous. It is reported as doing much good by feeding on the scale and other insect pests with which the trees are infested. Round Hadspen it is spreading somewhat. On the north-west coast, notably at Latrobe and Devonport, the Goldfinch is gradually becoming a familiar object. Sometimes young birds are obtained by fixing a cage over the nest when it is found in a garden; then the old birds will continue to feed their young through the bars of the cage.

We will now pass on to the common Starling (*Sturnus vulgaris*). About the year 1800 Dr. E. L. Crowther, of Hobart, purchased a number of Starlings in New Zealand and brought them to Hobart, where he liberated seventy-five. These birds are the common English Starling, imported into New Zealand and from there into Tasmania. They were promptly protected by law, and multiplied rapidly. Starlings are now extremely plentiful in Hobart and the surrounding districts, but southward have not spread much beyond Lower Sandy Bay, some four miles from Hobart. To the north of Hobart they are found above Bridgewater, and inland about twenty miles, extending their range beyond Brighton, but have not yet reached Campania, a distance of twenty-seven miles. They are also very numerous far beyond the River Ouse, Native Tier, Macquarie Plains, and all intervening parts between the places mentioned.

On the east bank of the Derwent they have spread to Bellerive and surrounding district. In 1899 they had not reached Sorell, but are now numerous there. They may be seen in flocks of a hundred or more on grass paddocks, hunting for grubs. These birds do much good by destroying countless numbers of these pernicious larvæ. During the fruit season,

however, starlings become such a nuisance by their depredations in the orchards that legal protection is practically abolished. Indeed, they are caught and frequently used instead of pigeons at shooting matches. For this purpose, I believe, they are captured by blocking up the holes by which they get under roofs and into barns, or such like places where many roost, and taking them during the night.

It is only within the last few years that Starlings have extended their range to the northern portion of the island. I believe the first recorded specimens were shot at Evandale and Longford. The skins were sent in to the Launceston Museum as those of new and unknown species. Down the West Tamar, at George Town and Low Head, they are found in increasing numbers. On the north-west coast, Sassafras and Northdown are largely supplied with these birds; they are not generally distributed, confining themselves mostly to the grass lands on the coast-line, where they pay close attention to worms and grubs.

The next bird that claims our attention is the English Skylark (*Alda arcensis*). At Risdon and Glenorchy, a few miles from Hobart, Skylarks are to be found in fair numbers. Some thirty or forty years ago a number of birds of this species, imported from England, were liberated near Newtown, but did not thrive. Within the last ten or fifteen years other imported birds have been liberated, which multiplied, and their descendants are now fairly numerous in the paddocks about Newtown, Risdon, Glenorchy, and Brown's River Road, but have not extended much beyond these limits. At Sorell they are fairly plentiful. A correspondent informs me that a short while ago, when going round his paddocks at 4.30 a.m., although it was quite dark, with the exception of the remains of the moon, which had just risen, a Skylark was joyously singing overhead. At the northern end of the island some imported Skylarks were liberated some years ago at St. Leonards, about five miles from Launceston. Around Cressy, twenty odd miles from Launceston, Skylarks are rather plentiful, more so than at St. Leonards. They seem to be on the increase at Cressy; recently, numbers were heard filling the air with song. During 1899 the Northern Tasmanian Acclimatisation Society imported some three dozen birds of this species from New Zealand, and liberated them in the surrounding districts. Some of the birds have thriven well, but others have completely disappeared. About the same time the late Mr. R. G. Talbot, of Malahide, Fingal, imported a number from the same place, and liberated them. These birds have greatly increased.

About twenty years since, some common Pheasants (*Phasianus colchicus*) were imported from England and liberated at Newtown, but they soon fell a prey to "pot-hunters." Others were also introduced at Entally, where for a time they throve remarkably

well, at one period as many as ninety young birds being reared. They gradually disappeared, being either shot or destroyed by vermin, notwithstanding they were under the care of an experienced English gamekeeper. A resident of Stanley, on the north-west coast, has on more than one occasion imported these birds. Sir Richard Dry, also, imported Pheasants and Partridges (*Perdix perdix*). Young birds were reared on the Quamby estate, near Hagley, but they were all shot or destroyed.

A little time since a resident of the Midlands made two unsuccessful attempts to acclimatise Red Grouse (*Lagopus scoticus*) and Partridges. Recently another attempt was made. Eggs have also been brought from England to ascertain if they would remain fertile during the transit. One great drawback to the successful rearing of game birds is the want of sufficient suitable cover.

Some Field Notes.

BY C. F. BELCHER, LL.B., GEELONG.

CACOMANTIS FLABELLIFORMIS, Fan-tailed Cuckoo.

On 29th September last I was rambling with a friend along the "White Bank," a tongue of tea-tree covered sand that lies between the lower Barwon River and the sea. Stooping beneath a leptospermum bush, and looking about in the low foliage, I discovered an old nest of a Scrub-Wren (*Sericornis*). Inside was an egg that broke as it was touched, and proved to be a Fan-tailed Cuckoo's, of possibly last season. A further glance showed a new nest at my shoulder, sheltered cunningly by a thick bough. I withdrew two fresh eggs of the Scrub-Wren; and the third, which was also fresh, was another Fan-tailed Cuckoo's. A comparison of this with the pieces of the old egg made it certain, to my mind, that they were laid by the same bird. The nest opening was fairly large. These are the first eggs of this Cuckoo I have found in this district since 1892, on 25th July of which year I got two from Scrub-Wrens' nests in tea-tree fringing Lake Connemare. One nest contained only the egg of the Cuckoo, the other an egg of the nest's proper tenant as well. Both Cuckoos' eggs were very much alike in the latter case also, and the nests were only about 100 yards apart.

GLOSSOPSITTACUS PORPHYROCEPHALUS, Purple-crowned Lorieet.

On 28th September, in the bushy country lying between Marcus Hill and Ocean Grove, usually known as the Queens-cliff-road bush, Masters P. and A. Young discovered the nest-hollow of this charming little Lorieet. It was in a green limb of a white gum, and contained three young birds ready for their

first flight. The distinctive porphyry-coloured patch on the crown of the head showed itself almost as clearly as in adult specimens. The fledglings were kept alive for a day or so by constant feeding in the mode presumably adopted by their parents, but a cold night killed them. This is the first authenticated taking of the nest in this district, and seems very early in the season, as the other members of the order *Psittaci* do not usually breed here before late October.

PARDALOTUS (genus)—Pardalotes.

The Masters Young above mentioned, who are close observers of birds in the field, took, during the space of a few days in September, three clutches of Pardalotes' eggs, each of which differed strikingly from the others in point of size. The first set taken was one of three eggs of *P. punctatus* from a tunnel into the side of a gutter on a country road. These eggs are much smaller than those subsequently taken, and I have always noted that the Spotted Pardalote's eggs may at once be distinguished from other local species in this way. Furthermore, the Spotted Pardalote never, in this district at least, tunnels into a perpendicular or steep bank, but always into a very gentle declivity, as the rise alongside a road, or the mouth of a rabbit-burrow. The second clutch was one of four from a hole in a gum-tree at Batesford. In this case the bird was not identified, except that the head was striped. The eggs were peculiar by reason of their very large size. The last nest taken was in a steep creek bank, also at Batesford. This contained two eggs, of a size intermediate between the last-mentioned eggs and those of *P. punctatus*, but exactly corresponding in all respects with eggs previously taken by me in similar positions, and with two sets found also in a steep creek bank at Narre Warren later on in the season, a bird caught in one of the two latter nests proving to be *P. assimilis*. A closer noting of these two species may probably prove that *P. ornatus* is an invariable tree-breeder, while its ally keeps to the ground. It is difficult here to get at many of the nests in tree-hollows, as they must always be chopped out, and take some finding in the first instance.

GRAUCALUS MELANOPS, Black-faced Cuckoo-Shrike.

On 11th November, in a quiet gully near Narre Warren, I saw a Graucalus (Cuckoo-Shrike) fly from an old nest of the Pied Grallina. Percy Young, who was with me, climbed the tree and found a single egg of the Graucalus. The nest was very slightly injured since the builders had left it, and the Cuckoo-Shrike had added merely a few cobwebs and a little lining. The egg was hard-set. I stood under a tree the bird flew to, and examined it carefully. Strange to say, there was no black about the face. In an adjacent tree we found this season's nest of the Grallina, with four eggs.

North-Western Notes.

BY THOMAS CARTER, POINT CLOATES, W.A.

DURING the last four months of 1900, which was the wettest and "best" season (in a pastoral sense) ever known here, odd birds or pairs of the Flock Pigeon (*Histriophaps histrionica*) were frequently seen inland from here. The first week of this year (1901) I started for a trip to the south-west of this State. Large bush fires had been raging for some days to the east and south, burning bare a patch of country about 80 miles square. On 7th January, when approaching the Lyndon River, 70 miles south of here, the fire was burning fiercely on both sides of the road. I camped at a pool that night, and saw several large mobs of these pigeons about sunset, as usual flying at a great speed, and out of gunshot. The next day I decided to spell the horses, and walked to another larger pool. Enormous flocks of the pigeons were feeding on the freshly burnt ground, and about 8 a.m. they began to water at the pool in countless thousands. The roar of their wings was like the noise of heavy surf breaking on the beach. I sat and watched the birds for some time. As noted by other observers, they seemed to be in a frantic hurry all the time, and when a flock came to the pool they not only covered the bank at the bare side of the pool (where the ground sloped to the water, without any bush or cover), but actually settled in and on the water in thousands. After a few gulps the whole flock would rise and give place to another. As I wished to secure a specimen or two, I succeeded, after several attempts, in crawling within long gunshot of a mob, closely packed and busily feeding on the bare, burnt plain, evidently finding abundance of grass seeds in the cracks of the clayey soil. On firing, the flock rose and circled closely above my head for some time, being interested in two of the victims which were fluttering on the ground. The noise and whirr of their wings were extraordinary. My native boy was greatly excited, and kept shouting to me to shoot some more before they flew away; but one of the cartridge cases had jammed, the extractor slipped over it, and I had to laboriously unscrew and unship it with my pocket-knife, and by the time fresh cartridges were inserted the birds were out of range. Referring to Mr. North's pamphlet on the decrease in numbers of this and other birds, may it not be accounted for in some measure by the birds following rains and feed to different parts of Australia, some years, perhaps, elapsing before they occur again in any particular locality? It is many years since these birds have visited here. Of course, this will not apply to resident species.

At Carnarvon some days were spent waiting for steamer going south. Green-backed White-eyes (*Zosterops gouldi*) and Yellow-throated Miners (*Manorhina flavigula*) were abundant in the dense wattle and other scrub about the banks of the

Gascoyne River, especially in the vicinity of some gardens, where I was told these birds committed havoc with the fruit, and that until the gardens began to be productive the White-eyes were hardly ever seen. They were probably there but not noticed. On 2nd May, after my return here, Painted Finches (*Emblema picta*) were noted in some numbers, and on 11th June on the high rocky range here they were quite common, flying about in small mobs of seven or ten. The last I saw was a pair at a sand-well on the beach, 13th September. When at Cardabia Creek, 14th July, I found a nest of the Whistling Eagle (*Haliastur sphenurus*) with two eggs, and in the next white gum, a few yards distant, a nest of the Black-faced Cuckoo-Shrike with two eggs. The following day nests of the White-shouldered Caterpillar-eater (*Lalage tricolor*), with young, and Tricoloured Chat (*Ephthianura tricolor*), with four eggs; also of Tawny Frogmouth, with two eggs. A Darter (*Plotus novæ-hollandiæ*) was shot at the large pool, which, as recorded in *The Zoologist* for July, now contains numerous small fish. In September several Pelicans were seen there and a Pied Cormorant (*Phalacrocorax hypoleucus*). The Cormorant and Darter were never noted there before. On 21st and 28th July I found several nests of the Pied Honey-eater (*Entomophila leucomelas*) in scrub growing on the coast sandhills, near the shearing shed. The full clutch appears to be three. The nests were somewhat substantially built, and about 4 or 5 feet from the ground. One nest was in a small sandalwood bush standing apart. It contained young birds. The mother fluttered about, feigning lameness, and uttering a melancholy piping note. This bird is one of the commonest winter visitors, arriving in numbers after the first rains, usually in June. The male birds are much more in evidence than the females, as they perch on the upper twigs of bushes, and, rising to some height in the air, flutter to another perch, uttering their somewhat mournful piping song. They are usually shy and difficult to approach. In the course of shearing, a Pectoral Rail (*Hypotaenidia philippinensis*) was seen running about and feeding in the drafting yards and brush fences. 1st September.—In some hard sandy cliffs on the beach several Black and White Swallows (*Cheramæca leucosternum*) had their nests. It is amazing through what hard material these apparently weak birds can drill a hole. With much trouble and the aid of a strong sheath-knife I enlarged two holes sufficiently to admit my arm. Both contained young birds. The holes were 3 feet long, the nest cavity being large and containing two or more handfuls of flat leaves, about 4 inches in length, off a species of mulga. 10th September.—I noted three nesting holes of these birds excavated in the soft sand under a large bunch of spinifex on the roadside. The wind had blown and cut away one side of the hummock on which the spinifex was growing,

leaving a fall of about 3 feet. In this the holes were made. A pair of Mangrove Kingfishers (*Halcyon sordidus*) were at these cliffs, but I failed to find a nest. A pair of Reef Herons had a nest containing four eggs on a shelf of the cliff. Apparently a blue bird and white were mated, the blue bird coming off the nest. Curlews arrived about 31st August, and Oriental Dottrel (*Ochthodromus veredus*) 10th September. On 3rd October I shot a Common Sandpiper (*Tringoides hypoleucus*), on the beach, the first noted here. 9th November.—A female of the Stubble Quail (*Coturnix pectoralis*) was flushed and shot close to the house, also a first record here; the Brown and Little Quails have only been previously noted. 21st November.—Saw an Emu with four young, in down, about as large as domestic fowls. This must have been a very late brood, the usual laying season being end of May, but I have noted in other dry seasons, as this is, that Emus seem to delay their breeding.

Protective Colouration of Australian Birds and Their Nests.

PART II.

BY D. LE SOUËF, C.M.Z.S., &c.

(Read before the Aust. O. U., Adelaide Session, 2nd November, 1901.)

HONEY-EATERS vary much in colour, but the males and females do not as a rule vary much in markings, but by far the larger majority of hen birds have greenish or dull-coloured backs. Their nests are mostly hanging, and built in varying situations, according to the colour of the bird, and you can generally make a good guess at the shade of the owner's back by the place it builds its nest in; if among green leaves at the end of a branch the bird will probably be greenish, as for instance *Ptilotis penicillata* (White-plumed Honey-eater); if lower down among the dead branches, grey or brown; and if in very thick vegetation low down, the markings will be fairly conspicuous, like in *Meliornis novæ-hollandiæ* (White-bearded Honey-eater). Honey-eaters are a large group, but if notice is taken it will soon be seen how the various kinds are protected, mostly by the birds building in places which assimilate with the colour of their backs, as before stated.

The Ground-Lark (*Anthus australis*) is well known, but how often its open nest is passed by without being detected, it being made of dry grass and containing three dark grey eggs. The bird itself is as inconspicuous as its nest and egg, and would rarely be seen if it only had the courage to remain on its nest when danger threatened. Nightjars (*Caprimulgus*, &c.) are wonderfully protected by colouration, and would seldom be seen

if they remained sitting still when one passed by, and they choose either stony ground or under a few shrubs, where the broken shade makes it still more difficult to distinguish them from their surroundings. Then, again, their egg is either lightish brown or very pale green, with a few black spots on, and they also are very difficult to detect even at a short distance, and unless the place is noted from where the parent bird rose there is a good chance of not finding it, as it is laid on the bare ground. Both the male and female take turns on the egg, there being practically no difference in colour between them. The *Podargi* (Frogmouths) are very similar to the preceding birds in so far as both the male and female are wonderfully protected by their markings, the male being occasionally a little redder in shade, and he generally sits on the eggs most of the day. In roosting during the day they choose either a dead branch or one covered with rough grey bark, and they sit lengthways on the bough, remaining perfectly still if danger is near, and, stretching out their beaks, make their bodies appear perfectly straight, and exactly like a broken dead stump, and when sitting on their eggs look just like a piece of wood lying across the nest. I remember on one occasion that, having found a nest, my companion thought some boy had thrown a stick across it, so perfect was the resemblance, and it was some time before he could make out that it was the bird itself, although only about fifteen feet away from us. During the day the pair is never far apart, being either in the same tree or one of them in an adjacent one.

Bee-eaters are bright-plumaged birds, but, nesting in a hole as they do, the hen bird does not require any protective colouring. The same applies to Kingfishers, Cockatoos, and Parrots, as in most of them the females are a conspicuous colour, but as they all nest in hollows they do not want much protection when nesting. When the Alexandra Parrot (*Polytelis alexandroe*), in whose plumage there is much green, sits on a bough, it generally does so lengthways. It is then difficult to detect as long as it remains still; and the same may be said of the green Lorikeets when they are feeding on the eucalyptus flowers among the green leaves, and also the more sombre-coloured Grass-Parakeets as they are feeding on the ground among the coarse grass and weeds.

Doves and Pigeons nest in different places, according to their colour, and they need to, being favourite food for Hawks. They build, as a rule, very fragile stick nests, and in some cases it is difficult to realize how the bird can fly off and on without upsetting its egg. The *Geopelia* are all of a grey colour, and make their nests of a few small twigs, generally placed either on a dead branch or among dead or grey brushwood, within a few feet of the ground, and are most difficult to find, despite their white eggs—a Hawk passing overhead would

hardly discern them. The *Lophophaps*, or Plumed Pigeons (*L. ferruginea* and *L. leucogaster*) are of a reddish hue, and they are found in Central and North Australia, in bare and generally barren country, which suits their colour. They mostly construct their nests under the spinifex grass or on the bare ground. The male takes his share in incubation, being very little different in colour from his mate. The Bronze-wings (*Phaps*) are of a dark grey colour, and they build their nests in the lower branches of small trees or shrubs, either among the dead wood or grey boughs, which harmonise with their colouring. The beautiful Fruit-Pigeons (*Ptilopus*), of Northern Queensland, are, with two exceptions, green on the back, and the male is very little brighter in colour than the female. Both take their turn in sitting on the egg, the male doing the principal share. Their breasts are beautifully coloured, but that is not seen from above. They build their nests in a fork at the end of a thin bough among the green leaves, and being in dense scrub there is no wind to upset them. They are exceedingly difficult to recognise from below, and from above probably more so. What makes the nests so hard to see is that they are composed of so few sticks that the light passes through them, making the egg of a flesh-coloured tint. Some of the smaller Fruit-Pigeons occasionally nest in bushes, but always near the end of a branch. Even when these birds are feeding on the fruit among the green leaves, and you hear the fruit-stones dropping on the ground beneath, you generally have to look carefully for a long time before you can discover them, so perfectly are they protected by their colour. One of the exceptions I mentioned is the Nutmeg Pigeon (*Myristicivora spilorrhoea*), which is mostly white, but these birds build substantial nests, and breed in colonies often of many thousand birds, generally on islands off the mainland, which the others do not. Then, again, the Little Green Pigeon (*Chalcophaps chrysoclora*) is approximately the colour of its surroundings, and it is almost invariably found in moist situations where the grass is green and near scrub. It builds its nest in a fork of a bush among the green leaves, generally within three or four feet of the ground.

The brown inconspicuous colour of Quails is well known; as is also how still these birds remain if a hawk is passing, and how difficult it is for the bird of prey to catch sight of them as they squat on the ground, very similar in colour to themselves. Their nests are generally well hidden in tussocks of grass, and the eggs, too, are mostly of a brownish colour. The Collared Plain Wanderer (*Pedionomus torquatus*) lays its clutch of three or four eggs on the open grassy ground; but they are coloured dark green, and so are protected by colour if not by vegetation.

In the dense scrub-covered gullies and ranges on the eastern coast of Australia are found the Lyre Bird (*Menura*), Brush

The Emu.

PLATE VIII.



Red-capped Dottrel's Nest.



Pied Oyster-catcher's Nest.

Turkey (*Catheturus*), and the Megapode (*Megapodius*). The colour of all three birds is dark brown, quite in keeping with their surroundings, as the soil is dark and no grass grows in the thick vegetation where these birds are found, and you do not get them in the open country. The Mallee Fowl is another striking instance of protective colouring, as it lives in the Mallee scrub covered country, and as the bird squats down when danger is near, in such vegetation, with its broken light, it is almost impossible to distinguish it, except at a very short distance. Their eggs are of course hidden, being buried in their nesting-mound.

Native Companions (*Antigone australasiana*) are large birds, and well able to take care of themselves and their eggs, but the latter are light brown and straw colour, and of a similar tint to the dry grass of which the nest is composed ; and the Bustard (*Eupodotis australis*), which also lives on the plains, is dull grey in colour, and on the bare ground lays a greenish egg, which is very similar in colour to the surrounding grass. The Stone Plover (*Burhinus grallarius*) also lives on the ground, generally among the trees, where the ground is nearly bare, and its plumage harmonises exactly with its surroundings. When disturbed the bird often lies flat on the ground with its neck stretched out, and is very difficult to recognise. Its eggs, too, are a greenish hue, and are laid on the ground without any nest, and two I got from Queensland, that were laid on reddish ironstone soil, were practically the same colour, and not green. Plovers (*Lobivanellus*) are very similar, the colour of their greenish-brown backs being hard to distinguish from above as the birds sit on their nests, and the dark-coloured eggs also assimilate with the dark, damp soil on which they are generally laid. The same applies to Stilts, Avocets, Sandpipers, Dottrels, and other waders to a greater or lesser degree, especially with regard to the colour of their eggs, which assimilates with the particular places in which they are laid. This is especially so with regard to the Dottrels, that lay their eggs on the beach, just above high water mark, among the pebbles and sand, and, as many can testify, the protective colouring is almost perfect.

Grebes, which lay conspicuous white eggs, that, however, soon get nest-stained, and build floating nests, construct their homes of green water weeds among the weeds and rushes. The eggs are always covered up during the day when they are not sitting, and the various ducks also cover up their eggs with down or grass if they have to leave them. The Straw-necked and White Ibises lay white eggs, and are not hidden in any way, but then they nest in vast rookeries, and to a certain extent protect one another; but among sea birds Terns are fairly conspicuous, but their eggs are often not so, being generally laid on sand or pebbles near the sea, and are coloured accordingly ; if on soil, among herbage, the markings are much darker. They

mostly nest in colonies, and so to a certain extent protect each other. Petrels are dark and easily seen, but they nest in holes, and the male takes his turn on the nest, but the same fact applies to most sea birds. Gannets and Albatrosses nest in the open, and are conspicuous, but they are powerful birds, and also nest in colonies, and male and female both take their turn at sitting. During the nesting season among the smaller Petrels the bird which is not sitting remains at sea during the day, safe from the attacks of Hawks, Crows, &c., and only returns to its companion after dusk, leaving again in the morning by daylight.

I have only treated this interesting subject very briefly, as the protective colouring of eggs is a study in itself, as is that of the birds and their nests; but enough, I think, has been said to show how that practically all through our birds the various kinds nest in surroundings which more or less harmonise with them in colour, that the outside of their nests also assimilates with the branch or ground on which it is built, and that eggs which are laid on the ground are of the same general hue as their surroundings. Of course there are exceptions, but they are very few. It is to be hoped that this article may be the means of stimulating others to investigate the same subject, and to illustrate by photography instances seen, and, if possible, secure the nest and branch it is on for a local museum when the young have flown, so that others may be able to learn practically. In passing through the bush during the nesting season, how many nests are passed by undetected! It is usually by our sitting still and watching the birds that they betray their homes, which otherwise we should have missed. Sometimes the nests are found by observing the bird flying off. Birds fly away from their homes when disturbed by human beings, but not so when a bird of prey passes over—they remain quietly where they are, apparently trusting to their colour to save them. On several occasions when peering about on the ground under a bush where I had seen a bird alight, such as a Nightjar, I have caught sight of its bright eye before I could make out the bird itself, and I have heard of other observers doing the same thing.

FORMALIN AS A BIRD PRESERVATIVE.—I have on hand several small birds injected with a 20 per cent. solution of formalin five months ago. They do not show any signs of decay, but are only dried up, leaving the bodies rigid. With large birds success depends on their being dried quickly. These mummies, in many cases—such as for identification, &c.—are as useful as properly skinned specimens.—A. MATTINGLEY.

Some Notes on the Birds of Lake Eyre District.

(GEOLOGICAL EXPEDITION UNDER THE LEADERSHIP OF
PROFESSOR GREGORY, F.R.S.)

BY C. M. LYONS, MELBOURNE UNIVERSITY.

THE following is a short account of some of the birds seen by us while accompanying Dr. Gregory on his expedition around Lake Eyre, in the interior.

We left Hergott Springs on 18th December, 1901, and commenced our march across the desert, but, with the exception of Crows, no birds were seen until the Clayton River was reached. Here large flocks of Bare-eyed Cockatoos, Rose-breasted Cockatoos (Galahs), and Crested Pigeons were seen. Several small flocks of Teal were seen on the waterholes, and around them numbers of the Black-tailed Native Hen were playing. Hawks were also numerous and very bold, a couple of them hovering about within 20 feet of the camp. Next morning a pair of Wild Turkeys (Bustards) was seen, but we were unable to shoot either of them. The above-mentioned birds are typical of this area, and were met with along all the waterholes which we subsequently came across.

From the Clayton to the Dulkaninna artesian bore no birds were seen, again excepting the ubiquitous Crow, but on the small swamps formed by the overflow from the bore were large flocks of Teal, Black Ducks, and a few Mountain Ducks (Sheldrake). Until the Cooper was reached we saw no more birds, but here they were very abundant. As the bed was dry no waterfowl were about, but Hawks, Crested Pigeons, and small birds were in plenty. We were struck by the number and size of the Hawks' nests. These were easily accessible, owing to the small size of the trees; no eggs were, however, obtained. At Lake Killalpaninna, which is fed by the Cooper, we saw, in addition to the birds above mentioned, a white or bluish-white fishing hawk—probably the Sea Eagle. These were in a flock of about 20, but were too far off to shoot or to accurately determine. Black Swans and Pelicans were also observed here for the first time. Two or three Magpies were also noted in the distance; these were the first and last seen on the journey. Native Companions were seen by Dr. Gregory at Kopperamanna Bore. Going down the Cooper some fine Wedge-tailed Eagles were seen, but none were obtained. Along the dry bed to Piranna waterhole bird-life was scanty; but in the early morning round the latter I saw Wild Turkeys, Red-necked Avocets, Teal, Widgeon, and Mountain Ducks, Grebes, Chestnut-eared Finches, and immense flocks of Crested Pigeons. Previously I had only seen the latter singly or in pairs, but being early morning they had assembled to drink. After seeing a small dead tree absolutely covered with them I felt less sceptical of the accounts of

early explorers, who speak of having killed 30 to 50 with one discharge of a gun.

Further down the Cooper, at the large saltwater holes of Malkuni and Kuttupirra, we saw Silver Gulls, Spur-wing Plover, two or three Black and White Fan-tails, a Coot and a Little Black Cormorant, several Noisy Miners, large numbers of Bee-eaters, Yellow-vented Parrakeets, the latter generally in pairs, and as usual Ducks, Cockatoos, &c. Here, and on the Diamantina, I saw a reddish-brown wading bird about the size of a Curlew, but I could not recognise it, nor was I near enough to describe it definitely.

Emu tracks were plentiful, and a mob of five was seen by Mr. Donaldson. Towards the entrance of the Cooper into Lake Eyre birds became scarce. At Unda Wumpa numbers of Pigeons congregated round the soakage which we dug; a few Red-necked Avocets were seen, and an occasional solitary Mountain Duck. On the shores of the lake animal life appeared to be represented solely by lizards and a few marsupial rats. On our return to Malkuni we saw several Delicate Owls; these flew out of the cliffs on the riverside. Nests were abundant, but the holes were too deep to enable us to reach the eggs. I found one egg, however, at the entrance to a hole; the contents were semi-solid, and appeared as if baked by the sun.

In the sand-hill country between the Cooper and the Diamantina birds, as usual, were scarce, but on reaching the latter river we found them in great abundance. Owls were plentiful. Two or three flocks of the Yellow-legged Spoonbills were seen. Most of the birds previously mentioned were here in great numbers. Several Straw-necked Ibises and a single White Ibis were seen. A large mob of Black Cormorants was flying about one of the holes. On our return from duck-shooting further up the river they had vanished, nor did we subsequently meet with them.

The holes were thronged with ducks—Teal, Blue-billed, Pink-eared, Whistling, and Mountain Ducks. The Teal, however, greatly predominated. We saw many young ducks not more than a fortnight old; others were half-grown and still "flappers." Many of the older ducks (Teal), having lost their primaries, were also in this condition, and we amused ourselves with catching several by swimming after them until they were tired out with diving. The Pink-eared and the Blue-billed Ducks also refused to rise, and, to my great surprise, I caught one of the former. Hawks were very plentiful, and fallen ducks had to be quickly gathered before they were swooped off. Grebes (Black-throated) were also numerous, and I think I also saw the Hoary-headed species amongst them. The Black-tailed Native Hen was in immense numbers. Little Turtle Doves were abundant, as was also the Black and White Swallow. On the verandah of the deserted station at Kalamurina were numerous nests of the

Fairy Martin, but I saw none of the birds about. Further down the river we saw, one evening, a flock of Pelicans, which had formed a complete bar across the shallow end of a waterhole, here about 80 yards wide. A few Red-backed Kingfishers were seen, but were not numerous. One notable absentee was the Great Brown Kingfisher, or Laughing Jackass, for neither did we see him in person nor enjoy his familiar and hilarious cachinnation. Towards the end of the journey the Chestnut-eared Finch, familiar to readers of the Horn expedition report, became more abundant, but we did not find them in such great numbers as they did further to the north. Near Poonaranni and Oanna the Warbling Grass-Parrakeet became more abundant. Crossing the sand-hills to the Macumba few birds were seen, but along the valley of the latter they were again fairly plentiful. We saw numbers of Wild Turkeys and Wedge-tailed Eagles. Water being scarce Pigeons were absent, as they do not appear to travel far from water. Round the deserted native "soakages," near the confluence with the Nardubuckina, were numerous Chestnut-eared Finches, Wrens, and a single Pipit. I also flushed a Quail, and saw a small Wren-like bird with a pure white back, and searched carefully among the bushes, but it had disappeared.

Going along the Macumba and Nardubuckina small birds again became scarce, but Turkeys were abundant. On striking across the "gibber" plains, birds, as usual, vanished, but on reaching some small holes, which appeared to have been recently filled with rain water, our old friends the Chestnut-eared Finches and the Crows reappeared. From here to the Peake head station I saw no more birds, excepting a small flock of Teal on the Neale River.

I must mention my indebtedness to Mr. D. Le Souëf, C.M.Z.S., &c., for his kind advice and help in examining the specimens brought back; and also to Dr. Gregory and the other members of the party for assistance rendered during the journey.

The following specimens were obtained :—

(1.) BLACK-TAILED NATIVE HEN (*Microtribonyx ventralis*).—Great mobs of these frequented the banks, and at daylight and dark the edges of the holes were black with them.

(2.) MOUNTAIN DUCK, OR SHIELDRAKE (*Casarca tadernoides*).—At every waterhole a pair or more of these birds were seen, while single birds were often met with.

(3.) SILVER GULLS (*Larus nova-hollandia*).—These were fairly plentiful along all the rivers, but especially so at the saltwater holes at Malkuni, on the Cooper. I was struck not so much with their distance inland—300 miles from the head of Spencer Gulf—but with the fact that there is absolutely no connection between these rivers and the sea, as Lake Eyre, into which they flow, is itself 39 feet below sea level.

(4.) WHITE-FRONTED HERON (*Notophoxys nova-hollandia*).—This specimen was shot at Kalamurina. Others were occasionally seen along the rivers.

(5.) WHITE EGRET (*Herodias timoriensis*).—One specimen shot. Although it was midsummer, it had a bright yellow bill.

(6.) FRECKLED FROGMOUTH (*Podargus phalaenoides*).—Shot near Poonaranni. I saw another tame one at the Peake station.

(7.) BARE-EYED COCKATOO (*Cacatua gymnopsis*).—Abundant at the Clayton, Killalpaninna, Malkuni, and immense flocks at Kalamurina.

(8.) PINK-EARED DUCK (*Malacorhynchus membranaceus*).—Occurred all along Diamantina, but nowhere in large numbers.

(9.) COOT (*Fulica australis*).—Shot at Malkuni. Abundant on Lower Diamantina.

(10.) YELLOW-VENTED PARRAKEET (*Psephotus xanthorrhous*).—Fairly plentiful along all the rivers. Generally in pairs.

(11.) RED-KNEED DOTTREL (*Erythrogonyx cinctus*).—(Adult bird and two young ones.) The old bird was shot by Mr. Dow, at Kalamurina, and the young ones killed by Mr. Donaldson near the same place. I saw no others.

[Among the birds secured during Prof. Gregory's expedition to Lake Eyre were two skins of young Red-kneed Dottrels, with their parent. They are apparently about three weeks old, and not as large as the old bird. The crown and back are brown, each feather being tipped with a lighter shade, which give it a mottled appearance. All the under surface is white, including the throat, and also a band just behind the crown extending to the back of the eye, and adjoining this white band, but behind it, is a black one extending to the lower part of the eye. The primaries are black, slightly tipped with white. The secondaries are also black and tipped boldly with white, and also white at the base, the amount varying on each feather. The lesser and median wing coverts are mostly white, with a few brown feathers just coming, and a small patch of white on the spurious wing. Humeral feathers dark brown, tipped with a lighter shade. The tail feathers are black, tipped with light brown; under tail coverts white, with a few brownish-black spots. Beak yellowish for about half its length, the end being black. The nasal groove is more than half the length of the beak. Feet yellowish and toes black.—D. LE SOUËF.]

(12.) AUSTRALIAN BEE-EATER (*Merops ornatus*).—Common in flocks of about 50 on the Cooper and Diamantina.

(13.) LITTLE BLACK CORMORANT (*Phalacrocorax sulcirostris*).—Shot at Malkuni. Saw a few others on Lower Diamantina.

(14.) BLACK AND WHITE SWALLOW (*Cheramæca leucosternum*).—At Kalamurina they used to appear towards evening, and sweep round in pursuit of insects.

(15.) LITTLE TURTLE DOVE (*Geopelia cuneata*).—These pretty little Doves were plentiful on the Diamantina. They were frequently heard on the journey, the blacks calling them by the imitative name "Kūrūkūkū."

(16.) CHESTNUT-EARED FINCH (*Tanopygia castanotis*).—Large numbers of these Finches, locally called "Diamond Sparrows," were seen about all the waterholes, their presence being, without exception, indicative of water.

(17.) RED-BACKED KINGFISHER (*Halcyon pyrrhopygius*).—Shot near the rain-water hole at Oanna. Others were seen on the Diamantina and Nardubuckina Rivers.

(18.) BELL BIRD (*Oreoica cristata*).—This specimen, shot near Poonaranni, was the only one seen; their notes were frequently heard while travelling down the river.

(19.) WHITE-EYED DUCK (*Nyroca australis*).—Saw occasional ones at Poonaranni and on Cooper, with other ducks.

(20.) BLUE-BILLED DUCK (*Erismatura australis*).—On most of the large holes of the Diamantina one or two of these birds were seen, but owing to their quickness in diving were hard to shoot.

(21.) DELICATE OWL (*Strix delicatula*).—These were plentiful on the Cooper and Diamantina wherever there were soft loamy cliffs.

(22.) RED-NECKED AVOCET (*Recurvirostra novae-hollandiae*).—Half a dozen or so of these were seen on all the large holes of the two rivers.

(23.) SQUARE-TAILED KITE (*Lophoictinia isura*).—Shot at Killalpaninna, where it was fairly plentiful. Numbers were also seen at Kalamurina.

The skins of the undermentioned birds were unfortunately lost when it was too late to replace them :—

(24.) CROW (*Corvus coronoides*).—Abundant everywhere. The camel train was often followed for miles by a small flock of them, and on camping they nearly always reappeared. The popular idea is that the same flock follows a caravan from start to finish, but we always lost sight of them in the long desert stretches.

(25.) ROSE-BREASTED COCKATOO (GALAH) (*Cacatua roseicapilla*).—Very plentiful about all rivers, their screech proving very irritating when stalking ducks or other birds.

(26.) BLACK-FACED WOOD SWALLOW (*Artamus melanops*).—Fairly numerous along all the rivers.

(27.) CRESTED PIGEON (*Ocyphaps lophotes*).—Abundant wherever there was water. In no case did we find them at any distance from it.

(27A.) BLACK-THROATED GREBE (*Podiceps novae-hollandiae*).—Numbers of these were seen on all the sheets of water, whether salt or fresh, which we passed on the route.

(28.) BLACK DUCK (*Anas superciliosa*).—The only place where these were abundant was at the Dulkaninna bore.

(29.) GREY TEAL (*Nettion gibberifrons*).—These ducks were the most numerous, and were seen wherever there was water.

(30.) NOISY MINER (*Manorhina garrula*).—Two of these were shot at Malkuni, others were seen at Kalamurina.

(31.) PIPIT (*Anthus australis*).—Only one of these was seen, on the edge of a native well on the Macumba.

(32.) WREN (*Malurus*).

(33.) HONEY-EATER (*Ptilotis keartlandi*?).—This resembled the Keartland Honey-eater, but the markings were not quite so dark.

In addition were several other birds which I had not determined.

The following birds were noted, but specimens were not secured, viz. :—

(1.) BLACK SWAN (*Cygnus atrata*).—Five Swans were seen at Lake Killalpaninna, others were met with on the lower Diamantina.

(2.) PELICAN (*Pelicanus conspicillatus*).—These were also more numerous on the Lower Diamantina.

(3.) WEDGE-TAILED EAGLE (*Uroaëtus audax*).—A few were seen on the Cooper and Diamantina.

(4.) CRANE (NATIVE COMPANION) (*Antigone australasiana*).—The only ones met with were those seen at Kopperamanna by Dr. Gregory.

(5.) EMU (*Dromæus novæ-hollandiæ*).—Two mobs of these were seen by other members of the party, but tracks were to be seen everywhere.

(6.) SOUTHERN STONE PLOVER (*Burhinus grallarius*).—These were occasionally seen, and their notes frequently heard at night.

(7.) SPUR-WING PLOVER (*Lobivanellus lobatus*).—Four of these Plovers were seen at Malkuni—the only ones which we came across.

(8.) MUSK DUCK (*Biziura lobata*).—Only one was noticed (Poonaranni). Several cartridges were wasted upon it in vain, owing to its diving abilities and the width of the river at this place.

(9.) WHITE IBIS (*Ibis molucca*).—The only bird of this species was seen near Kalamurina.

(10.) STRAW-NECKED IBIS (*Carphibis spinicollis*).—Several were seen near Kalamurina.

(11.) MAGPIE LARK (*Grallina picata*).—A few Grallinas were seen at Kalamurina.

(12.) WILD TURKEY, OR BUSTARD (*Eupodotis australis*).—These were seen along all the rivers. Several flocks of from a dozen to twenty were seen on the Diamantina.

(13.) YELLOW-LEGGED SPOONBILL (*Platibis flavipes*).—Two or three flocks were seen at Kalamurina.

(14.) MAGPIE (*Gymnorhina tibicen*?).—Three Magpies—possibly this species—were seen at Killalpaninna.

(16.) BLACK-EARED CUCKOO (*Misocalius pailiolatus*).—One or two noted on the Diamantina.

(17.) CORMORANT (*Phalacrocorax carbo*?).—A flock of Cormorants, resembling the common Black, were observed at Kalamurina.

(18.) PIED CORMORANT (*Phalacrocorax* — ?).—A Pied Cormorant was only seen in the distance. Not sure of its identification.

(19.) WHITE-NECKED HERON (*Notophoxyx pacifica*).—Kalamurina. One or two others were noted.

(20.) WARBLING GRASS-PARRAKEET (*Melopsittacus undulatus*).—Fairly abundant between Poonaranni and Oanna.

(21.) BLACK AND WHITE FAN-TAIL (*Rhipidura tricolor*).—Two or three were seen at Kuttupirra, and a like number at Kalamurina.

(22.) WHITE-HEADED STILT (*Himantopus leucocephalus*).—A Stilt answered the description of the above, but its barking cry resembled that of the Banded Stilt.

[Mr. Lyons is to be complimented for the number of birds he has collected, especially when the hardships of transport—always on the move, &c.—are considered, also the time occupied in skinning specimens (often under difficulties), not to mention the prevailing exceedingly hot weather. As it was, some of the specimens shot had to be abandoned, together with other baggage. His field notes are interesting, and give a good idea of the extent of bird-life in that dreary desert region. Mr. Lyons saw many more birds than those he has enumerated, but they could not be identified with certainty.—EDS.]

Captain Hutton on Migratory Birds of New Zealand.

CAPTAIN F. W. HUTTON, F.R.S., Christchurch, New Zealand, President of the Australasian Association for the Advancement of Science, amongst other attainments has long been an ornithologist of repute. Hence anything he may have to say about birds is worth notice, and his paper on "Our Migratory Birds," contained in the "Proceedings of the New Zealand Institute" for last year, will be read with general interest. The wide problems connected with bird migration and geographical distribution are ably reviewed by the light of the latest knowledge, and a valuable series of notes on those birds which in their yearly flight or otherwise visit New Zealand are also embodied in the paper. Though these notes are, of course, local to those islands, they have a bearing on the work of bird students in Australia, since some of the species named touch our shores in their passage, and others have passed hence.

In dealing with his subject the author has drawn the line between "stragglers," which may have been blown to sea and forced to fly on; those wanderers who pass from one country to another for what is often an inexplicable reason; and those regular migrants who have fixed seasons for arrival and departure. The list of the first-named class includes several cases of birds which have managed to cross the Tasman Sea (by way of Australia) and to reach New Zealand. Amongst these are cited the Red-capped Dottrel (*Ægialitis ruficapilla*), Curlew (*Numenius cyanopus*), Little Whimbrel (*Mesoscolopax minutus*), Grey-rumped Sandpiper (*Heteractitis brevipes*), Greenshank (*Glottis nebularis*), Snipe (*Gallinago australis*), Grey Phalarope (*Crymophilus julicarius*), Plumed Whistling Duck (*Dendrocycna eytoni*), Darter (*Plotus novæ-hollandiæ*), Kestrel (*Cerchneis cenchroides*), Red-wattle Bird (*Acanthochæra carunculata*), Tree Martin (*Petrochelidon nigricans*), Roller (*Eurystomus pacificus*), and White-rumped Swift (*Micropus pacificus*). The captain adds—"Possibly there may be a few others, but their cases are not fully proved." However, the Whimbrel (*Numenius variiegatus*) and the Black-billed Spoonbill (*Platalea regia*) might have been included with safety. None of the foregoing birds has been known to breed in New Zealand, and they are often only single examples. The distance across the Tasman Sea is about 1,000 miles, which Captain Hutton reckons could be accomplished by a bird in from 24 to 36 hours.

The mysterious migration of the White-eye (*Zosterops cærulescens*) from Australia is ever fresh to students. The author states:—

"The date of its first occurrence in Otago is doubtful, but in 1856 it appeared on both sides of Cook Strait in considerable numbers. Before then it was unknown both to the Europeans and the Maoris, the latter calling it 'Tauhau,' which means 'a stranger.' In 1860-61 it had spread

over the South Island and the southern parts of the North Island, but it did not reach Auckland until 1865. It has also spread to the Chatham Islands, Snares, Auckland Islands, and Campbell Island. Evidently it is a new arrival, for the restless habits of the bird forbid us from thinking that it had remained for many years in Otago without spreading northward. I should call the White-eye a wanderer, and not a straggler, for, unlike the others, it crossed the ocean in sufficiently large numbers to establish itself both in New Zealand and afterwards in the outlying islands. Several other of our birds—especially some of the Herons, Rails, and Ducks—are also found in Australia, and these we assume were at one time wanderers like the White-eye. They also, at different times crossed over the sea, and became naturalised, but long before the settlement of the country by Europeans.”

The more regular migrants—those that breed in Siberia and Kamtchatka, and travel to the South to winter—are next considered. Of the feathered stream which passes every year through the Malay Archipelago to Australia, a small branch—three or four species—leaves New Guinea for New Zealand. Of these the Barred-rumped Godwit (*Limosa novæ-zealandiæ*) is the best known. Leaving their breeding grounds in Eastern Siberia the end of June or in July, and passing China, some winter in the Island of Formosa. Others arrive in August or September in Australia,* Fiji, &c., departing again northward early in autumn. In New Zealand many Godwits arrive during October, November, and December, spreading as far south as Stewart Island,† and leaving about the end of March or beginning of April. Some also visit the Chatham Islands.

The Turnstone (*Arenaria interpres*), the Knot (*Tringa canutus*), the Brown-eared Sandpiper, or Sharp-tailed Stint (*Heterophygia acuminata*), and the Spotted (Lesser Golden) Plover (*Charadrius dominicus*), are mentioned, with equally interesting records and details. With regard to a pair of Golden Plover having bred at Portland Island, as reported by Mr. C. H. Robson, most students will agree with Captain Hutton that the occurrence, if a fact—with the birds, too, being in winter or non-breeding dress—is certainly very remarkable. As has been pointed out, such introduced birds as European Linnets, Starlings, Goldfinches, &c., change both dress and breeding season together on coming to the Southern Hemisphere.

The two Cuckoos—the Bronze (*Chalcococcyx lucidus*) and the Long-tailed (*Urodynamis taitensis*)—furnish material for some exceedingly interesting paragraphs. The Bronze Cuckoo appears regularly in the northern parts of New Zealand during the latter half of September, and early in October it is found in Wellington and in the South Island. After breeding, the old birds commence to return in January. Some of the young leave considerably later than their parents. In the adjacent Chatham

* In spring—September or October—numbers of these birds are often offered for sale in the Melbourne market.—EDS.

† Three Godwits were shot by Mr. Borchgrevink on Campbell Island, during the cruise of the whaler *Antarctic*, 1894.—EDS.

Islands the birds arrive and depart about the same dates as in New Zealand. On the Chathams, on one occasion, a bird was noticed to arrive so tired after its flight that it suffered itself to be picked up and handled.*

The author is of opinion that the New Zealand Bronze Cuckoos have their winter home in New Guinea, and, excepting touching at Cape York, Northern Queensland, their course is direct to New Zealand, save those that land and breed on Norfolk Island. May some of the birds not travel down Eastern Australia, seeing there is a specimen in the Australian Museum which was taken in Tasmania?

Touching the very interesting Double-banded Dottrel (*Ochthodromus bicinctus*) the author states it has been "suspected" of migrating from New Zealand to Australia, but thinks "it may be safely affirmed that it does not pass regularly" between these localities. Judging by the numbers (a flock of 50 birds being recorded in one instance)† of these Dottrels which appear regularly in autumn and disappear before spring, notably in Victoria, as well as Tasmania, and by the fact that eggs have never been found in any part of Australia, the assumption is that these birds must return regularly to New Zealand, their only breeding quarters.

It is doubtful whether the Pectoral Rail (*Hypotaenidia philippinensis*) is a migrant in the true sense in its more Australian quarters, as stated by Captain Hutton. The fact that these birds do not migrate in New Zealand, tends to prove that that trait may be similar in the same species on this side of the Tasman Sea.

Understanding that Captain Hutton is *au fait* at sea birds, we should have expected him to touch on the Mutton Bird (*Puffinus tenuirostris*), which happens to be attracting so much attention at present, and which is as truly a migrant as any of the birds he has enumerated and so pleasantly and instructively dilated upon. It has rookeries on the New Zealand coast and neighbouring islands. Possibly it has been regarded as a pelagic bird which only visits land to breed, and its visitations have not been looked upon as pertaining to migration from one part of the world to another.

Prosecutions under the Victorian "Game Act."

THE authorities are to be thanked for their vigilance in the matter of prosecuting transgressors of the game laws. Notwithstanding the law needs amending in some of its important details, as it stands it affords a very good protection to native

* A Bronze Cuckoo in a similarly exhausted state was noted much further south, on Macquarie Island. — "Nests and Eggs of Australian Birds" (Campbell), p. 580. — EDS.

† "Nests and Eggs of Australian Birds," p. 791. — EDS.

game and insectivorous birds if its provisions are duly respected by an intelligent public. If the law be deemed "a hass," then purely on the grounds of national or æsthetic sentiment let not our beautiful and interesting feathered friends be molested.

According to *The Argus* of 31st January, 1902, "Constable Neill, on the day previous to the opening of the duck-shooting season, went down to Grasse's Swamp disguised as a sportsman, and found three Teal in the possession of a man named John M'Cauley, who had been out on the swamp in a boat. He at first denied having shot them, but afterwards admitted having done so. He was brought before the local Court to-day and fined 5s., and 5s. for each bird shot; costs 21s. He was then charged by Mr. G. T. Chirnside with trespassing on his land with a gun in pursuit of game, this case arising out of the previous one. For this he was fined 20s. and 23s. costs." The three Teal cost M'Cauley £4 4s. Rather a small but dear bag.

The Geelong Advertiser reports that "at Lake Modewarre Constables Gleeson and Young paid a surprise visit to the lake on Tuesday night, and seized two guns from a well-known shooter there.* The barrels measured 4 ft. 6 in. in length, being one foot over the regulation size. The guns are very weighty weapons, and with them has been forwarded a padded support to receive the recoil when fired from the bottom of a punt. The seizure was made by Constable Gleeson. Constable Young, who was in another portion of the lake, saw a second boat put out with a similar gun in it. He called upon the man to stop, but this he refused to do, and the offender eventually made his escape."

The Shepparton Advertiser, 31st January, 1902, gives prominence (nearly a column) to a Quail-shooting case. At the local Court Michael Halpin and C. G. Hayes were summoned by Sergeant Morris for killing a brace of Quail each during close season. The Bench imposed a fine of £1 upon each offender besides 5s. per bird. W. M. Harper was charged with having in his possession a Quail in the close season, but on technical grounds this case was dismissed.

Bird Protection in America.

As mentioned in the first issue of *The Emu*, the American Ornithologists' Union is very active in the matter of protecting bird life and preventing its unnecessary destruction. In vol. xix. of *The Auk* (No. 1, January, 1902, pp. 31-54) accounts are given by Mr. Witmer Stone and Mr. W. Dutcher of the proceedings of the committee appointed for the purpose, recording the work

* Subsequently the offender, whose name is William Wood, was proceeded against by Mr. C. W. Maclean, Chief Inspector of Fisheries. The guns, which cost £21 10s., were forfeited, and in addition Wood was fined £1, with £1 1s. costs.

done and describing the success achieved. Up to 1901 only five States had satisfactory laws for the protection of non-game birds, but during that year eleven more Legislatures were induced either to amend their old laws in the desired direction or pass new ones on the lines of a bill which had been drafted for the Union by Dr. T. S. Palmer, who (acting for the Biological Survey of the U.S. Department of Agriculture) has so vigorously and efficiently enforced what is known as the *Lacey Act* that a great deal has been done towards suppressing the trade in birds for millinery purposes. This Act is said to have "spread consternation amongst illicit game dealers throughout the country." In the district of Columbia retail dealers who had been served with printed extracts from it refused to keep or sell plumes, and returned them to the New York wholesale houses. In that city, dealers who had protected birds in their possession were prosecuted, and "paid the fines rather than defend the suit."

Along the Atlantic coast wardens visit the various breeding grounds of Gulls, Terns, &c., and keep so keen an eye on illegal shooters and egg-collectors that those birds have greatly increased in number, and in one district the leading supplier said "he guessed shooting birds for hats was over." The work has not been confined to the eastern coast. In Chicago the trade in American cage-birds has been practically suppressed, and from California it is reported that, as far as known, no birds are now collected there for the millinery trade. Over a large area of the States considerable activity in the matter is shown, more particularly when the ladies have been enlisted in the cause. In Atlanta one lady had, "unaided, secured the pledges of over 3,000 of the best women of her State that they would not in the future use the plumage of wild birds as millinery ornaments . . . and through her efforts over 2,500 school children of Atlanta were subscribers to a pledge not to harm or annoy wild birds." Much of the success achieved is due to Mr. Abbot H. Thayer, who alone collected what is known as the "Thayer Fund," used principally for the expenses of wardens and the posting of warning notices in conspicuous places, and still more perhaps to the aid of the various Audubon societies, who seem very earnest in the cause.

That the movement in favour of bird protection is spreading from the new to the old world is evident by the fact that a cablegram has appeared in the newspapers announcing that His Majesty King Edward and Queen Alexandra have strongly deprecated the killing of birds in order to secure their feathers for trimmings for ladies' hats. Their Majesties were prompted to take this action on being informed that a milliner had entered into a contract for 10,000 Seagulls' wings for London and Paris orders. Australasia should lose no time in falling into line in this matter.

Stray Feathers.

DOES THE FEMALE EMU EVER INCUBATE? At Anlaby, the beautiful estate and home of Mr. Henry Dutton, a small paddock, adjoining the gardens, is set apart as a home for deer, kangaroo, and Emu. This season (1901) the female Emu made a nest in a secluded corner amongst the gum trees, and deposited there five eggs, upon which she sat contentedly for nine weeks. During this time she was fed daily by one of the gardeners, and in due season marched off with three young birds. They all kept by themselves, aloof from the other birds. The two eggs that proved to be infertile have had small punctures made in them, and will be taken by Mr. Dutton to England as a curiosity from his Australian home.

Of course, I have always heard that the male Emu helped in sitting on the eggs, &c., but not entirely. On my old wild run in Port Lincoln they were very plentiful at certain seasons; but a few times that I actually saw the bird run off the nest it was a female. In this case, the gardener says that the female bird kept to the nest all through the sitting, and walked off with the young ones, and they kept entirely together for some weeks, until the other big birds, male and female, gradually joined them; and one day he pointed out to me the Emu with her brood, and it was a female bird. Many a time, when mustering sheep on wild heathy hills, we have seen a mob of Emu 5 to 17 in number. On slipping off our horses, and whistling plaintively, the birds would come around us, full of curiosity, within a few feet. They are such noble, majestic birds, so harmless, and reminding one of the Arabian Desert, not forgetting the wonderful and rather sad expression of their eye, that it always seemed to me a wicked and cursed thing to kill them.—HENRY HOLROYD. Tarlee, S.A.

* * *

A ROOKERY OF NUTMEG PIGEONS (*Carpophaga spilorrhoa*).—Being informed that pigeons were plentiful along the Seymour River, a few miles north of the Herbert, and also that they were supposed to breed in the mangroves at the mouth of the river and in Hinchinbrook Channel, I availed myself of the first opportunity which presented itself of paying them a visit. On 28th December last I went down the Seymour by boat, arriving near the mouth late in the afternoon. Pigeons were just beginning to arrive in small flocks from their feeding grounds up the river, but later on, as sunset approached, they appeared literally in hundreds, all making for the islands in the mouth of the river. We accordingly headed for the largest island, and moored our boat close in shore for the night, intending to investigate the birds early in the morning. By this time the clamour of the roosting Pigeons was tremendous, and was added to by the notes of countless small birds, continuing for



An Osprey's Nest.

FROM A PHOTO. BY G. P. CONIGRAVE.

some time after dark. With the first flush of daylight we were ashore, and speedily shot what Pigeons we wanted for the pot. On pushing across to the east end of the island, where the greater number of birds seemed to have congregated, we came upon their nests. The first one I found contained an incubated egg, which I could see plainly through the nest, which was of the scantiest description, perfectly flat, and hardly large enough to contain the single egg. It was placed on a horizontal fork in a "red mangrove," about 15 feet from the ground. I afterwards found upwards of thirty nests, nearly all containing young or incubated eggs, but no nest with more than one egg or young bird. They were all of the same frail build, some consisting only of about 20 twigs roughly interwoven. On one occasion we found two nests in the same tree. We explored the remainder of the island, walking knee-deep in slimy black mud all the time, but there were no more nests. We then visited two of the smaller islets, but only on one did we find nests—two altogether, both containing young. It was now about 7 a.m., and the Pigeons were leaving in great numbers, and as we could find no more breeding places, we soon afterwards took our departure. A young bird which we took from the nest is now quite tame, and will take food from the hand. The eggs are pure white, smooth, and slightly glossy—in form oval as a rule, but some are more lengthened than others, and the measurements show considerable difference. One egg I took is visibly much larger than any of the others in both measurements. I give the measurements of four specimens:—(a) 1.95 x 1.24 inch; (b) 1.81 x 1.2 inch; (c) 1.75 x 1.17 inch; (d) 1.7 x 1.23 inch.—EDGAR H. WEBB. 15/1/02. "Macknade," Herbert River, N.Q.

* * *

A FLIGHT OF MUTTON BIRDS.—Captain Waller, of the s.s. *Westralia*, when passing near Eddystone Point, on the east coast of Tasmania, on his way from New Zealand to Melbourne, on 26th January, 1902, passed, early in the morning, an immense flight of Mutton Birds (*Puffinus tenuirostris*) from seven to nine miles long, going due south, probably on their way to some favourite feeding area. They had evidently left the extensive rookeries on the Furneaux Group of islands in Bass Strait at daylight, after having spent a night on shore, as the nesting was then in full swing. When we think of the vast host of birds seen, that probably each one had left a mate behind sitting on an egg at the bottom of their burrow, and remember that both birds are sometimes in the burrow together (so that even half the birds belonging to this particular colony would not be included in the flight seen), a little idea of their incalculable number can be formed. It can also be understood how 600,000 young birds can (as asserted) be taken from the rookeries, and yet plenty be

left to make up for losses that must occur during the year. As these birds only lay one egg, it is evident that they cannot have many enemies except man, and when one bears in mind the fact that both eggs and young birds have been taken from the rookeries to the number of many hundreds of thousands every year for the past forty or more years, and that during that time the number of young birds taken alone would number probably considerably over 24,000,000, the length of time it must have taken to bring these birds up to their present immense numbers is apparent. The eggs taken also would not fall far short of the number mentioned. There are large rookeries besides those in Bass Strait—for instance, those on the islands to the south of South Australia, near Kangaroo Island, and also many others off the coast of New Zealand.—D. LE SOUËF.

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NOTE.—NANKEEN HERONS.—When in company with Mr. A. J. Campbell one evening in the middle of January, in the Melbourne Zoological Gardens, we heard a European Starling crying out as if in great distress, and evidently caught by another bird. On approaching a thick willow tree by a lagoon to find the cause, we heard the cries repeated some distance off in another tree, showing that the bird in distress was carried further away by its captor. Again following the noise, I caused a large bird to fly close to where Mr. Campbell was standing, who then saw it was a Nankeen Night Heron (*Nycticorax caledonicus*) that had the Starling in its beak. When the Heron saw Mr. Campbell it dropped its prey, which fell dead, and flew off. This is the first time we have noticed these Herons performing the part of a bird of prey when wild, although we have known them to devour Quail and Dottrel that were confined with them in the same enclosure.—D. LE SOUËF.

* * *

EFFECTS OF DROUGHT.—Last year took the record for minimum rainfall, and the absence of rain may somewhat explain the lateness in the hatching of birds. For instance, to-day I have two nests of Black and White Fan-tails, or Shepherd's Companions, with young just come to light. I never knew them to be so late as this. All the swamps have been dry during last 18 months, so no large birds are about.—C. W. BRUSH. Boondara, Booligal, N.S.W., 2/1/02.

* * *

DROUGHT IN QUEENSLAND.—There is nothing much to mention about the birds now, consequent upon the doleful drought. We have a drought-stricken family of 10 little Water

Crakes here. They are brown, with a little white spot on the wing. We also have 8 common (Brown) Quail about the garden, which are so tame that they will hardly get out of one's road. A Black and White Fan-tail fights its own reflection in the window glass. It has been at it steadily from the beginning of November, and seems quite gay, though a trifle ragged. He shapes at it first thing in the morn, and is sometimes there till dark.—ERNEST D. BARNARD. Coomooboolaroo, 22/1/02.

* * *

WHITE IBIS.—Under date of 1st February, 1902, Mr. M. Gubbins Roche writes:—"Whilst driving through the forest last week between Heywood and Dartmoor (Vic.) I came across, in a secluded swamp, a flock of 200 White Ibis. Their only companions were two Yellow-legged Spoonbills, some Crested Grebes, and a wisp of large Snipe. I have never seen the White Ibis before in such numbers, usually only a few birds in flocks of Straw-necked or Glossy Ibis."

* * *

DO MUSK DUCKS FLY?—Mr. Chas. G. Hamilton, Perth, W.A., states:—"It is mentioned in Mr. A. J. Campbell's book, 'Nests and Eggs,' that there is considerable doubt about the Musk Duck flying, and letters are given from people, some affirming, others denying, that it does so. Till recently I did not think the bird could fly more than very short distances along the surface of the water. However, we had a shooting trip lately, and I was with a friend when he shot one in mistake for a Black Duck. The bird was flying high over us, and was going very fast. It must have come from another swamp, which is about a mile distant. This occurred *just at dusk*."

* * *

CAIRNS NOTES.—*Shining Starling (Calornis)*.—24th November, 1901.—I examined a series of 14 nests, which all contained young birds; three of these had four birds each, and one four birds and one addled egg; the balance held twos and threes.

Long-tailed Kingfisher.—22nd December, 1901.—Few birds; several nests ready for eggs. 29th December.—Birds plentiful, also many nests, but only one egg. 5th January, 1902.—Birds plentiful, also nests; eggs taken; clutches, 3, 3, 3, 2. One nest contained young birds, one nest just vacated, and two ready for eggs. 11th January.—Birds very plentiful; eggs taken; clutches, 3, 3, one slightly incubated. Several nests just ready for eggs. Same day, 3 eggs Scrub Turkey.

Black-backed Quail.—19th January.—Took clutch 4 eggs.—E. M. CORNWALL.

A LUSUS NATURÆ.—I saw an extraordinary Magpie the other day while cycling from Yinnar to Morwell, Gippsland. It had light chocolate-brown markings instead of black, and at a distance, when flying, it appeared almost white. The bird was evidently young, with other Magpies, and was in a wattle tree close to another bird when I examined the markings from a distance of about 50 feet. I took a $\frac{1}{4}$ -plate photo of the freak, but it will be too small for any practical purpose.—J. P. CAMPBELL. Murrumbidgee, 7/2/02.

* * *

AUSTRALIAN BIRDS AT THE CRYSTAL PALACE.—At the exhibition of the London and Provincial Ornithological Society, held at the Crystal Palace, November last, the best bird in the Parrakeet class was a female of the Golden-shouldered Parrakeet (*Psephotus chrysopterygius*). In the class for Waxbills, &c., a pair of Red-faced Grass Finches (*Bathilda ruficauda*) received first award; a pair of White-breasted Grass Finches (*Munia pectoralis*) being second. In the mixed class for seed-eaters the first prize was won by a pair of Long-tailed Grass Finches (*Poephila acuticauda*), the second by a pair of White-eared Grass Finches (*P. leucotis*). The class for insectivorous birds included Wood-Swallows (*Artamus personatus* and *A. superciliosus*) and a Sacred Kingfisher (*Halcyon sanctus*).

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AWARDS FOR AVICULTURE. — The Avicultural Society awards a bronze medal to any of its members who succeed in breeding, in the United Kingdom, any species of bird that has not been known to have previously bred in captivity in Great Britain or Ireland. The following Australian birds have brought success to their owners, viz.:—Long-tailed Grass Finch (*Poephila acuticauda*), in 1897, owner Mr. R. A. Todd; Green-Leek (*Polytelus barrabandi*), in 1900, owner Rev. C. D. Farrar; Masked Grass-Finch (*Poephila personata*), in 1900, owner Mr. L. N. Hawkins; Pink Cockatoo (*Cacatua leadbeateri*), in 1901, owner Mrs. Johnstone; Red-faced Grass-Finch (*Bathilda ruficauda*), in 1901, owner Mr. A. E. Nicholson.

* * *

EMUS IN NORTH AUSTRALIA.—From casual observation I think the full-grown Emu in North Australia attains a larger size than in the southern parts of the continent, and is usually darker in colour, and the striping in the young lasts to a greater age than in the New South Wales Emu. Probably this is due to climatic and local causes, and not to any variation of species. Since I explored and settled my present holding on the Victoria River, North-West Australia, Emus have increased in numbers,

owing to the poisoning off of the dingoes and the supplying of regular work and food to the natives.—JOE BRADSHAW. St. Kilda, Victoria.

* * *

SNIFE ON MIGRATION.—I observed two flights of Snipe (*Gallinago australis*) passing over Sorrento, going north, on the 25th January. They had evidently crossed Bass Strait from the islands there or from Tasmania. They flew very low for snipe. They seemed to be heading towards Mud Island. I saw them at about 5 a.m., whilst I was making for a distant spot to fish off the rocks facing Bass Strait. There were in the first flight about 20 birds, and in the second lot about 10 or 12, which passed about seven or eight minutes after.—A. MATTINGLEY.

* * *

MIGRATION OF SWIFTS.—A flight of many hundreds of Spine-tailed Swifts (*Chaetura caudacuta*) passed over Bass Strait on 7th February, apparently from Tasmania, making their way due north. They were flying low and catching insects as they went, and were evidently migrating to the Northern Hemisphere, where they breed. I should be glad to know if any member of the Aust. O.U. has ever seen one of these birds resting either on a tree or on the ground.—D. LE SOUËF.

A severe whirlwind passed through Richmond and Burnley, suburbs of Melbourne, on the afternoon of 24th February, 1902. As it advanced, a party of Swifts was observed circling high up among the *débris* that was drawn up, finding there probably a number of insects caught up in the aerial whirlpool.—A. G. CAMPBELL, Armadale.

From Magazines.

IN the first (January) number of the *Agricultural Journal of Victoria* Mr. Charles French, F.L.S., Government Entomologist, contributes a chatty and useful article on "Economic Entomology and Ornithology," dealing chiefly with the former science, upon which he is so well able to write. He mentions that "the fruit-growers of Victoria and elsewhere are partially indebted for the large increase of insect pests, all and sundry," to so-called sportsmen—"pot-hunters," &c.—who have shot and "still continue to shoot down our valuable insectivorous birds." This is true, but may not the inevitable reclaiming of forested and bush lands for cultivation by orchardists and farmers themselves—thus destroying the natural domains of these birds—have also contributed in some measure to the decrease of valuable insect-eating birds?

The article is followed by another—a very important one—by Mr. French, on “The Necessity for the Preservation of our Insect-destroying Birds,” to which is subjoined a list of the principal insectivorous birds of Victoria. It will be noticed that the list contains a few unsuitable and obsolete names, which for educational purposes might now be allowed to drop into oblivion in favour of up-to-date nomenclature. By some inadvertence, too, the Blue Petrel—an ocean flyer, chiefly between the 40° and 60° south latitudes—has been allowed to slip into the list of “insectivorous birds,” while it perhaps would be better to let the Whistling (Tree) Duck and the fine Topknot Pigeon (*Lopholæmus antarcticus*) remain on the “Native Game Schedule.”

The intention to give a coloured figure of one or other of the most useful insectivorous birds in each number of the *Agricultural Journal* is a good one.

* * *

In the November number of the *Avicultural Magazine* the Rev. H. D. Astley, M.A., F.Z.S., records the interesting fact of a pair of our “Native Companions” having nested in his grounds in England. Although many of these birds are kept in captivity in Europe, this is the first time any of them have made a serious attempt to breed. In May last the pair began to build on the margin of a small lake, but afterwards chose another site a few yards away. Towards the end of May the female laid two eggs, but one of these was stolen and the second removed to be incubated by a farmyard hen, who failed to hatch it. “In eight days’ time the Crane laid the first of a second batch of eggs in the same nest as before, omitting, as she had previously done, one day between the production of the first and second eggs. On this second clutch she sat steadily for ten days,” when for the second time the eggs were stolen, probably by other birds. “Some ten days after the female bird once more took up her position on the same nest, which she added to slightly and re-arranged. In a fortnight the first egg of a third clutch was laid, which was again followed by another egg two days afterwards. But, alas! after the Crane had sat only a few days the eggs were once more taken. . . . Surely that was the end of all things for the first year of the 20th century. But in August, about a fortnight after this last calamity, the female Australian Crane was once more to be seen re-arranging her nest and sitting on it. And once more this pertinacious and prolific bird laid, for the fourth time of asking, two eggs—quite as fine and large, moreover, as any of their predecessors. These eggs also unfortunately disappeared.” As a forcible instance of “reserve fecundity” the foregoing is noteworthy, and when this and the many recorded

instances of Australian birds laying again, sometimes twice, after their eggs have been taken or some accident has befallen the nest, are borne in mind, the arguments of those who object to a few eggs being taken for museum purposes lose much of their weight.

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How five pairs of Warbling Grass-Parrakeets ("Betcherry-gahs") and five pairs of their progeny reared 104 young birds between one February and the next, in an aviary in Essex, is noted by Miss Brampton in the *Avicultural Magazine* for December. She had many failures before getting the birds to breed, and eventually got some "aviary-bred birds of good breeding strain," and in about two months was puzzled to find a stranger in the aviary, and in the course of a week or two twelve grand young birds had made their appearance. "After this," she says, "the youngsters came so thick and fast that they overflowed into my other aviaries until they were overcrowded, and still they came." When the young birds were disposed of the two old pairs retained gave up nesting seriously. As another instance of the fecundity of some Australian birds the above is worth noting. Allowing an average of seven eggs to each clutch, which is probably beyond the mark, and that every egg was fertile, there must have been 15 clutches of eggs laid by these few birds during the year, and as the young birds would not be likely to breed for some months after hatching, the old ones must have done the bulk of the work. Whilst in Adelaide last November visiting members of the Union were shown these pretty Parrakeets breeding in the aviaries of Mr. Mellor, at Fulham.

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THE N.Z. AGRICULTURAL REPORT (1900) states that a number of Magpie Larks (*Grallina*) was obtained from Australia and liberated at Auckland, Hawke's Bay, and Wellington. These birds have since been seen in localities widely separated and at considerable distances from the places at which they were liberated. This seems to indicate that they are establishing themselves in their new land. The importation will be continued. The birds feed exclusively on insects and small snails. Unfortunately, several have been shot by settlers, who possibly did not know the value of these birds as insect-destroyers.

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"NOTES FROM THE LEYDEN (HOLLAND) MUSEUM," VOLS. XXII. and XXIII.—Dr. Otto Finsch has kindly forwarded fourteen of his papers (excerpts from this journal) relating to Australasian sub-regions. The papers will be useful as lists of reference for any member working beyond the Australian

region, and it is very thoughtful of Dr. Finsch to send them to the newly-formed Aust. O.U. The doctor, in his notes on a collection of birds from the north-west coast of New Guinea (Sekru), vol. xxii., p. 62, includes with *Syma torotoro* (Less.) our *S. flavirostris* (Gould). Mr. Hartert, in "Novi Zool.," vi., p. 427 (1899), disagrees with this. Any member with available specimens should note the opinions. Attention is also drawn to *Climacteris scandens* and *C. leucophaea*, vol. xxiii., p. 60, and the names given of four or five species of *Climacteris* which are among the *desiderata* of the Museum. In vol. xxii., p. 276, the old name of *Artamus leucorhynchus* (Linn.) is used, and our *A. leucogaster* is included. Mr. Hartert places our bird as a subspecies, *Artamus leucorhynchus parvirostris*. In the same volume, p. 278, *Pitta elegans* is shown to extend its distribution to Kisser. Again, in the same vol., p. 282, our Northern *Cuculus intermedius* (Vahl.) is noted. According to Dr. Sharpe priority in name is given to Hodgson's *saturatus*, so that our *C. intermedius* (Vahl.) is now *C. saturatus*, Hodg. (Handbook B. M., ii., p. 158, 1900). The Sekru (north-west coast of New Guinea) collection made by Mr. Karl Schädler contains 76 species, of which 20 are Australian.

* * *

A PAMPHLET forwarded by Mr. Reginald C. Robbins, 373 Washington-street, Boston, and bearing the title, "Bird-killing as a Method in Ornithology," is devoted to a laboured argument to prove that killing birds for scientific study is something more than unnecessary. The author claims therein to "have shown that the dead bird differs from the live bird as an object of science by being a chronicle which is the more pitifully insufficient the more precise is its reference to the bird killed," and urges that far more than enough specimens have already been procured for teaching, were the collections merged and made generally available. There is no doubt a great deal of bird life sacrificed in the name of science (some perchance unnecessarily, hence much to be regretted), but Mr. Robbins has hardly chosen the best method of effecting a reform. He takes pedantry for precision in argument, and certainly will not be readily "understood of the people." A simpler statement of the case would have proved more effective.

* * *

MR. A. J. NORTH, in the January issue of the "Records of the Australian Museum" (iv., No. 5, pp. 209, 210), publishes a "Note on *Malurus leucopterus*, Quoy and Gaimard," which he says "was sent last July to Melbourne for publication in the *Victorian Naturalist*, but was temporarily (?) withdrawn, pending an application to the Western Australian Museum, Perth, for the loan of the type." In this note he mentions that, after referring

to the original drawing and description in the "Zoology and Atlas of the Voyage de l'Uranie," he finds "that Gould had good grounds for doubting if the bird figured and described by him under this name in his 'Birds of Australia' was not distinct from the species to which it had been originally applied by Quoy and Gaimard," and after quoting the description given by the last-named naturalists, says:—"The above diagnosis and description clearly do not apply to the cobalt-blue bird from New South Wales figured and described by Gould, and which in future will have to be distinguished under the name of *Malurus cyanotus*." Since writing the foregoing Mr. North had received a photograph of three specimens (as set up) of the bird collected by Mr. J. T. Tunney on Barrow Island, N.W. Australia, for the Western Australian Museum, and which has been named *M. edouardi*. Concerning these, he says:—"Judging by the description and photograph, these birds are, in my opinion, the true *Malurus leucopterus* of Quoy and Gaimard described 77 years ago." It will be remembered that these three specimens from Barrow Island were exhibited on 11th March, 1901, at a meeting of the Field Naturalists' Club of Victoria by Mr. A. J. Campbell, who described them* and suggested the new name, and that a photo. from Arago's original drawing of *M. leucopterus* accompanied one of *M. edouardi* on p. 66 of *The Emu*. It had been previously stated (p. 26) that should the black and white Wrens of Barrow and Dirk Hartog Islands eventually prove the same species, Gould's long-standing provisional name of *M. cyanotus* would become the proper one for the blue and white bird. Reference to the photographs will show that there are marked points of distinction between Quoy and Gaimard's *M. leucopterus* and *M. edouardi*, and that it requires some imagination to regard them as identical, the more particularly as the measurements given in the "Voyage de l'Uranie" for *M. leucopterus* are 3 inches 4 lines (not "about 4½ inches," as the paper under notice might lead one to believe), whilst the total lengths of the specimens of *M. edouardi* exhibited in Melbourne were 4.5, 4.5, and 4.75 inches respectively. Is it not, therefore, extremely probable that Mr. North has been somehow led astray? Possibly not having the birds themselves to examine has been a cause of error, and when specimens of both are before him he will possibly reconsider his present decision. In any case, perhaps, it is unfortunate that Mr. North did not give his opinion that Gould's blue and white bird could not refer to Quoy and Gaimard's ancient figure, and that the name *M. cyanotus* must be adopted for the former, before the last-found black and white Wren came on the *tapis*. To be wise after events is like the story of "Columbus and the Egg."

* Vict. Nat., xvii., p. 203.

The Illustrations.

PLATE vii., "Gannets Nesting." This fine subject was taken by Mr. D. Le Souëf on Cat Island during a recent trip to Bass Strait, mentioned on page 79 of the previous part (2). During the visit of a party from the Field Naturalists' Club of Victoria in 1893 it was estimated there were about 2,500 Gannets on that island. It is pleasing to be able to report that in the opinion of Mr. Le Souëf the number of birds is greater now.

Plate viii., "Red-capped Dottrel's Nest" and "Pied Oystercatcher's Nest." These pictures were taken by Mr. Le Souëf during the same excursion, and make admirable illustrations of his paper, "Protective Colouration," &c.

Plate ix. The photograph of the nest of the White-headed Osprey, which is situated on an isolated rock near the mouth of the Margaret River, Western Australia, has been kindly forwarded for reproduction by Mr. Bernard Woodward, Director of the Perth Museum, and was taken by his assistant, Mr. C. P. Conigrave. A petition has been presented to the Commissioner of Crown Lands (W.A.) for the permanent reservation of the site. Readers of "Nests and Eggs of Australian Birds" will remember the description given therein of the difficulties which beset those who wish to reach this spot. It would be interesting to know whether or not the same pair of Ospreys own this aërie as when Mr. Campbell photographed it eleven seasons ago.

Last, but by no means least, plate x. represents "Taking Topknot Pigeons' Nests" in the Big Scrub. During his visit to the scrubs of the Richmond River district of north-eastern New South Wales, in 1899, Mr. S. W. Jackson succeeded in finding many rare nests and eggs. Among his finds were two nests with an egg each of the Topknot Pigeon (*Lopholæmus antarcticus*). Both nests were found on 26th October, 1899, and were built in a very tall fig tree at an altitude of over 100 feet from the ground, and were obviously very difficult to obtain—in fact, they could not have been procured without the aid of a climbing ladder. After taking the nests Mr. Jackson photographed the tree, as the find was an important one. The crosses near the top of the tree show the situations of the two nests. The young man standing in the fork has lowered the ladder and just finished the operations. The interesting finding of these Pigeons' nests is chronicled in "Nests and Eggs" (Campbell), page 672.

To raise the Jackson climbing ladder a fine line weighted with an ounce of lead is shot from a catapult over a limb at the required height. On recovery of the weighted end it is

The Emu.

PLATE X.



Taking Topknot Pigeons' Nests.

FROM A PHOTO. BY S. W. JACKSON.

attached to a stronger line, and then to a one-inch rope which is hauled over the limb and down to the ground. The ladder is now attached and drawn up into position, the end of the guy line being made secure to a heavy log or tree-trunk. The ladder is 120 feet in length and is made of the best Manila rope with rungs of sound cedar. For the sake of convenience it is made in two lengths, and may be rolled up and fitted into a bag.

All the photo. blocks were engraved by Messrs. Patterson, Shugg and Co., 256 Elizabeth-street, Melbourne.

About Members.

HERRN Adolph Nehrkorn, Braunschweig, Germany, is the first foreign member to join the Australasian Ornithologists' Union. Herrn Nehrkorn possesses one of the largest scientifically-classed egg collections in the world—nearly 4,000 species. Although he has bequeathed his great collection to the Berlin Museum, he retains possession of it during his lifetime, for, notwithstanding his three score years, he is still an active collector.

Very general regret will be felt at the announcement that, owing to continued ill-health, Dr. William Snowball has retired—for the present, at all events—from his practice, to reside at his country residence at Longwarry, Gippsland. On account of his great skill, his enforced retirement, even for a short period, will be a public loss as far as suffering humanity (especially children) is concerned, while his metropolitan oological friends will miss much his pleasant chats about their mutual hobbies.

Mr. Edward Degen, formerly of the National Museum, Melbourne, and whose name has been mentioned in the "Beginnings" of the Australasian Ornithologists' Union, has been engaged as zoological collector to an expedition organized by Colonel Harrington, the British Consul-General at the Court of King Menelik, Abyssinia. A start is to be made by caravan from Zaila, on the Somali Coast. "From Zaila," Mr. Degen writes in a letter to one of the editors, from London, "this journey will be 500 miles overland to the capital, Ades Abbeta, which for some time we shall make our headquarters. From here excursions into the different districts will be made in all directions, while Lake Tsana or Dembea will be made the object of thorough investigation from a piscine standpoint. Of course big game will also receive due attention, likewise the avifauna its due share. The return journey will be made down the Blue Nile, through the Dar Berta country and contiguous mountains, to reach the Sobat River, called Addena at its head-waters. On reaching the White Nile, south of Fashoda, we shall follow this mighty artery to Khartoum, and in due course hope to reach Cairo." Mr. Degen expects the trip will occupy about nine months' time.

Since Mr. A. W. Milligan's arrival in Perth from Victoria he has presented no less than one hundred and twenty-five birds and twelve mammals to the local museum, in addition to other help he has given, and so, to mark their appreciation, the Committee, at the suggestion of the Director, Mr. Bernard Woodward, have offered to Mr. Milligan the position of Honorary Consulting Ornithologist, which all concerned are glad he has accepted. Mr. Milligan's enthusiasm in the field may be judged by the fact that his new Bristle Bird (*Sphenura litoralis*) was shot by himself in the South-West after a four days' chase. This interesting bird lives in the dense coastal scrub, and runs through cover instead of taking wing over it. In fact, Mr. Milligan only obtained his type specimen by firing into the bush whence the bird's notes came, and so frightened it into flight, when with a shot at a long range from his second barrel he secured the prize.

Correspondence, &c.

THE American Ornithologists' Union has 44 active, 16 honorary, 62 corresponding, and 616 associate members. Grand total, 738.

A member in New Zealand writes:—"I received the second instalment of *The Emu* not many days ago. It is a very good number, and the editors are to be congratulated on the general 'get up' and the sustained interest of the magazine. Should suitable contributions become scarce after a time, which is hardly likely, I shall be pleased to contribute a paper now and again."

Mr. Edwin Ashby, Adelaide, sends a leaflet from the Trans. Roy. Soc. of S.A. (1901), containing "A List of Birds" collected by himself in Western Australia during the end of August last. Forty-two species are enumerated (with brief notes), shot mostly at Speakmans, a locality situated about 85 miles north of Coolgardie. Mr. Ashby must have worked very assiduously, because he only spent five days there, collecting mostly at early morn. He claims the Chestnut-rumped (*Acanthiza uropygialis*) as "the first record of south-western Australia." The Black-throated Butcher Bird (*Cracticus nigrigularis*) may be claimed on the same grounds. Unfortunately, owing to a typographical error, Mr. Ashby's name was made to read Ashley on page 47 of the previous issue.

IMPORTANT.—*This part (No. 3, enlarged) concludes Vol. I. of "The Emu." Loose parts are liable to get mislaid or damaged, and as the journal is likely to become a valuable reference, members are urged to have their copies bound in accordance with the advertisement on the wrapper.*

List of Original Members and Founders of the Australasian Ornithologists' Union.

The notification of any correction or change in address of members will be esteemed a favour by the Honorary Secretary.

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BRUMBY, MISS, William-street, West Devonport, Tasmania.
BURNEY, F. L., Richmond Post-Office, North Queensland.
CAMPBELL, A. G., 10 Elm-grove, Armadale, Victoria.
CAMPBELL, A. J., 10 Elm-grove, Armadale, Victoria.
CAMPBELL, J. P., Neerim-road, Murrumbidgee, Victoria.
CARTER, T., Point Cloates, *via* Onslow, W.A.
CHENERY, Dr. A., Port Augusta, S.A.
CLARK, M. SYMONDS, 15 Australasian Chambers, King William-street, Adelaide, S.A.
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DE VIS, C. W., M.A., Queensland Museum, Brisbane, Queensland.
DOWN, C. E., 1 Ferguson-street, Williamstown, Victoria.
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- LE SOUËF, E. A., Director Zoological Gardens, South Perth, W.A.
- LE SOUËF, L., Zoological Gardens, South Perth, W.A.
- LE SOUËF, S. A., Zoological Society, Melbourne, Victoria.
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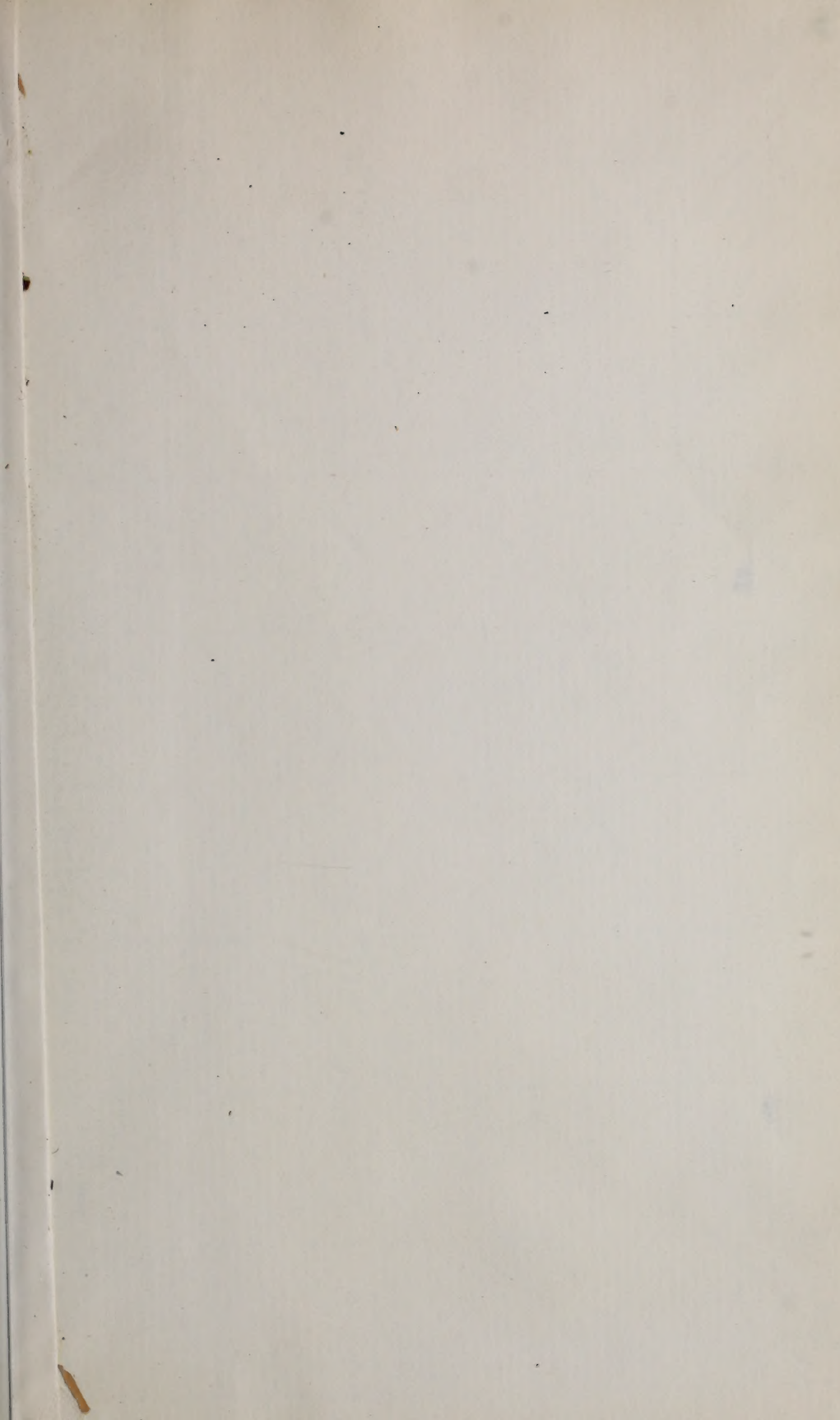
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 WOODWARD, BERNARD, The Museum, Perth, W.A.
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